Kant's

Transcendental Proof of Realism

Kenneth Westphal

CAMBRIDGE

KANT'S TRANSCENDENTAL PROOF OF REALISM

This book is the first detailed study of Kant's method of "transcendental reflection" and its use in the *Critique of Pure Reason* to identify our basic human cognitive capacities and to justify Kant's transcendental proofs of the necessary *a priori* conditions for the possibility of self-conscious human experience. Kenneth Westphal, in a closely argued internal critique of Kant's analysis, shows that if we take Kant's project seriously in its own terms, the result is not transcendental idealism but (unqualified) realism regarding physical objects. Westphal attends to neglected topics – Kant's analyses of the transcendental affinity of the sensory manifold, the "lifelessness of matter," fallibilism, the semantics of cognitive reference, four externalist aspects of Kant's views, and the importance of Kant's *Metaphysical Foundations* for the *Critique of Pure Reason* – that illuminate Kant's enterprise in new and valuable ways. His book will appeal to all who are interested in Kant's theoretical philosophy.

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CAMBRIDGE
UNIVERSITY PRESS

CAMBRIDGE UNIVERSITY PRESS
Cambridge, New York, Melbourne, Madrid, Cape Town, Singapore, São Paulo, Delhi

Cambridge University Press
The Edinburgh Building, Cambridge CB2 8RU, UK

Published in the United States of America by Cambridge University Press, New York

www.cambridge.org
Information on this title: www.cambridge.org/9780521108928

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First published 2004
This digitally printed version 2009

A catalogue record for this publication is available from the British Library

ISBN 978-0-521-83373-8 hardback
ISBN 978-0-521-10892-8 paperback

Contents

Acknowledgments viii

List of abbreviations ix

Introduction 1

1 Kant's methods: transcendental and epistemic reflection 12
- 1 Epistemic reflection in Kant's *Critique of Pure Reason* 12
- 2 Epistemic reflection in Kant's transcendental thought experiments 18
- 3 Epistemic reflection and the integrity of these four thought experiments 32

2 The metaphysics of Kant's transcendental idealism 36
- 4 Introduction 36
- 5 Noumenal causal affection of human sensibility 38
- 6 Some challenging passages 41
- 7 Verificationist interpretations of Kant and the transcendental significance of concepts 42
- 8 Transcendental reflection and the transcendental significance of concepts 47
- 9 Kant's transcendental reflection on sensibility 52
- 10 Noumenal and atemporal causality 55
- 11 Kant's metaphysical "dual aspect" idealism 56
- 12 Noumenal causality and rational agency 61
- 13 A positive view of noumenal causality 63
- 14 Conclusion 67

3 Transcendental affinity 68
- 15 Introduction 68
- 16 Is there a link between transcendental arguments and transcendental idealism? 69

17 Plan of discussion 71
18 The Humean background 72
19 Transcendental arguments with, and without, transcendental idealism 76
20 Void space and the possibility of experience 80
21 Kant: transcendental proofs require transcendental idealism 82
22 Transcendental affinity and the possibility of experience 87
23 Transcendental affinity in the A Deduction 101
24 Kant: transcendental idealism is the only explanation of transcendental affinity 107
25 Transcendental idealism cannot explain transcendental affinity 110
26 The material basis of transcendental affinity is independent of disputes about sensory affection 116
27 The prospect of nonsubjective formal transcendental conditions of possible experience undermines Kant's arguments for transcendental idealism, on grounds internal to the first *Critique* 118
28 Critique of Allison's methodology 123
29 Conclusions 125

4 The gap in Kant's *Critique of Pure Reason* 127
30 Introduction 127
31 Two accounts of the importance of the *Foundations* for the first *Critique* 129
32 Plan of discussion 131
33 Transcendental and metaphysical analysis 131
34 The role of outer intuition and its objects in the first edition 134
35 Three critical innovations in Kant's *Foundations* 137
36 The Analogies of Experience and external causation 146
37 A metaphysical presupposition of the Analogies of Experience 157
38 A second metaphysical presupposition of the Analogies of Experience 160
39 Systematic ramifications 166
40 A possible source of Kant's difficulty 171

5 Kant's dynamic misconstructions 173
41 Introduction 173
42 Kant's admission that matter is unconstructable 175
43 Kant's aim and method in the *Foundations* 176

44 Kant's phoronomic basis for dynamics 181
45 Phoronomy 182
46 Kant's fallacious use of the Proposition of Phoronomy 185
47 Kant's dawning recognition of the fallacy 189
48 Kant's dynamic theory of matter 190
49 Identifying Kant's circle 191
50 Kant's problems with cohesion 197
51 A further circularity in Kant's argument 198
52 Systematic ramifications of Kant's problems in the *Foundations* 199

6 Kant's metaphysical proof of the Law of Inertia 205
53 Introduction 205
54 Kant's plan for metaphysical foundations for Newtonian physics 205
55 Kant's Second Law of Mechanics 206
56 Kant's proof that physical causality is external 208
57 The empirical basis of Kant's refutations of vitalism and monadism 214
58 Systematic shortcomings of transcendental idealism 221
59 Kant's response to these critical problems 223

7 Three Kantian insights 228
60 Introduction 228
61 Kant's critique of determinism in empirical psychology 229
62 Justifying the metaphysical causal principle transcendentally 244
63 Kant's critique of global perceptual skepticism 250
64 Conclusion 266

Appendix 269
65 Summary of Kant's transcendental proof of the legitimacy of causal judgments 269

Bibliography 275

Index of names 291

Index of subjects 293

Acknowledgments

This project originated in the ideal conditions of an annual research stipend from the National Endowment for the Humanities in 1992. My research was supported in 1993 by a Summer Faculty Fellowship from my former institution, the University of New Hampshire. The penultimate manuscript was completed during a study leave from the University of East Anglia (2002–3). I am very grateful to each of these institutions for their support. My research was fueled by countless barrels of midnight oil. For their patience with my apparently unintelligible preoccupations with Kant's philosophy I thank my family. I have also enjoyed the intellectual support and stimulation, both direct and indirect, of many friends and colleagues in the field, only a few of whom may be mentioned here. I am deeply grateful to Gordon Brittan, Jeff Edwards, Robert Greenberg, Paul Guyer, William Harper, Robert Howell, and Burkhard Tuschling for their interest in my work, without which not.

The book draws upon prior publications. I thank the editors and publishers for their kind permission to reuse these materials here. All have been revised. Many details required omission; readers who suspect an oversight are invited to consult the original publications.

Chapter 1 and §63 draw from "Epistemic Reflection and Cognitive Reference in Kant's Transcendental Response to Scepticism," *Kant-Studien* 94.2 (2003): 135–71; chapter 2 draws from "Noumenal Causality Reconsidered," *Canadian Journal of Philosophy* 27 (1997): 209–45; chapter 3 from "Affinity, Idealism, and Naturalism: The Stability of Cinnabar and the Possibility of Experience," *Kant-Studien* 88 (1997): 139–89; chapter 4 from "Does Kant's *Metaphysical Foundations of Natural Science* Fill a Gap in the *Critique of Pure Reason*?," *Synthese* 103 (1995): 43–86; chapter 5 from "Kant's Dynamic Constructions," *Journal of Philosophical Research* 20 (1995): 33–81; chapter 6 from "Kant's Proof of the Law of Inertia," in H. Robinson, ed., *Proceedings of the 8th International Kant Congress* (Milwaukee: Marquette University Press, 1995), II.1: 413–24; §61 from "Kant's Critique of Determinism in Empirical Psychology" (*ibid.*), II.1: 357–70.

Abbreviations

Throughout, translations from Kant's writings are my own, unless noted otherwise.

Primary sources

Ak	*Kants Gesammelte Schriften*, 29 vols. Königlich Preußische (now Deutsche) Akademie der Wissenschaften. Berlin: G. Reimer, now de Gruyter, 1902–. Numbers indicate volume:page.lines.
G&W	*The Critique of Pure Reason*. Trans. and ed. P. Guyer and A. Wood. Cambridge: Cambridge University Press, 1998.
KdpV	*Kritik der praktischen Vernunft* (1788); Ak V. Trans. L. W. Beck, *Critique of Practical Reason*. New York: Bobbs-Merrill, 1956.
KdrV	*Kritik der reinen Vernunft*; Ak IV: 1st edn, 1781 (A); Ak III: 2nd edn, 1787 (B).
KdU	*Kritik der Urteilskraft* (1790); Ak V. Trans. W. Pluhar, *Critique of Judgment*. Indianapolis: Hackett, 1987.
MAdN	*Metaphysische Anfangsgründe der Naturwissenschaft* (1786); Ak IV; also cited as *Foundations* or *M* in short references. Trans. J. Ellington, *Metaphysical Foundations of Natural Science*. In *Philosophy of Material Nature*. Indianapolis: Hackett, 1985.
MdS	*Metaphysik der Sitten* (1797); Ak VI. Trans. M. Gregor, *Metaphysics of Morals*. Cambridge: Cambridge University Press, 1991.
Prol.	*Prolegomena zu einer jeden künftigen Metaphysik, die als Wissenschaftlich wird auftreten können* (1783); Ak IV. Trans. P. Carus and J. Ellington, ed. J. Ellington, *Prolegomena to any future Metaphysics that will be able to come forward as Science*. In *Philosophy of Material Nature*. Indianapolis: Hackett 1985.

Smith *Immanuel Kant's Critique of Pure Reason*. Trans. Norman Kemp Smith. New York: St. Martin's Press, 1929.

T David Hume, *A Treatise of Human Nature*. Ed. L.A. Selby-Bigge and P.H. Nidditch. Oxford: Clarendon Press, 1978.

Secondary sources

Claims Paul Guyer, *Kant and the Claims of Knowledge*. Cambridge: Cambridge University Press, 1987.

Ding Gerold Prauss, *Kant und das Problem der Dinge an Sich*. Bonn: Bouvier, 1974.

I&F Henry Allison, *Idealism and Freedom*. Cambridge: Cambridge University Press, 1996.

KDR Gerd Buchdahl, *Kant and the Dynamics of Reason*. Oxford: Blackwell's, 1992.

KTF Henry Allison, *Kant's Theory of Freedom*. Cambridge: Cambridge University Press, 1990.

KTI Henry Allison, *Kant's Transcendental Idealism: An Interpretation and Defense*. New Haven: Yale University Press, 1983.

Introduction

After initial enthusiasm sparked by Strawson's *The Bounds of Sense* (1966), Kant's transcendental arguments have been sharply criticized by analytic commentators. As Stroud (1977b, 105) observed, "it is not easy to incorporate the depth and power of Kant's transcendental deduction into present-day philosophical attitudes and preconceptions." However, rather than trimming Kant's views to conform to contemporary predilections, philosophically it is much more illuminating to reconsider some of our present-day attitudes and preconceptions in order to understand and benefit from Kant's transcendental proofs.[1]

This book aims to contribute to contemporary epistemology as well as to Kant scholarship. Central to this study are important yet unappreciated resources of Kant's *Critique of Pure Reason*, both methodological and substantive, that provide a genuinely transcendental proof of realism *sans phrase*. Kant has several projects in the first *Critique*. Kant's main project is to establish the possibility of *a priori* knowledge, and thus the possibility of rigorous ("scientific") metaphysics.[2] Another is to explain *how* mathematics and physical science are possible (B20, *Prol.* §§5, 6, 15).[3] However, Kant has a third key aim in the first *Critique*. While examining the possibility of rigorous metaphysical science, Kant provides a sound transcendental response to global perceptual skepticism. Kant's concern with such skepticism is reflected, for example, in his famous remark on the philosophical scandal that no one had yet proven the existence of the

[1] The immediate object of Stroud's comment is Jay Rosenberg's (1975b) naturalized Kantianism. I concur with most of Stroud's criticisms. I follow Baum (1986) in eschewing the term "transcendental argument," which is not Kant's, because the arguments bearing this label are not to be found in Kant's *Critique of Pure Reason* (see chapter 1). Although Baum's reconstruction may not be quite flawless (see Guyer, *Claims*, 437 n 20), it is rich in important insights. One important contemporary preconception that cannot be explored here is the alleged untenability of analyticity. On this see Hanna (2001), especially chapter 3.

[2] See Dreyer (1966), Baum (1986), Stroud (1999, 159), Greenberg (2001), and Falkenberg (2004).

[3] See Buchdahl (1969), Brittan (1978), and Friedman (1992a).

external world (Bxxxix note). Despite his confidence in mathematics and Newtonian physics as paradigm examples of knowledge, including synthetic *a priori* knowledge (B128), when introducing the vital importance of the B Deduction Kant recognizes that the key philosophical issue concerns whether the subjective conditions of thought are objectively valid, that is, whether the subjective conditions of thought are conditions of the very possibility of any and all knowledge of objects (B122–3, especially 3:102.30–2; cf. B127, 3:105.15–17).

Kant's "Refutation of Empirical Idealism" has an anti-Cartesian conclusion: "inner experience in general is only possible through outer experience in general" (B278–9). Due to widespread preoccupation with Cartesian skepticism, and to the antinaturalism of early analytic philosophy (reflected in its basic division between "conceptual" and "empirical" issues), most of Kant's recent Anglophone commentators have sought a purely conceptual, "analytic" argument in Kant's Refutation of Idealism – and then criticized Kant when no such plausible argument can be reconstructed from his text. They charge that Kant's transcendental arguments must argue by elimination, though they fail to eliminate the possibility of Descartes's evil deceiver, or alternative forms of cognition, or the possibility that the mere (individually subjective) appearances of things would suffice for the possibility of self-consciousness.[4]

In chapter 1 I argue that these disappointments overlook three key features of Kant's response to skepticism: the decidedly *non*-Cartesian philosophy of mind involved in Kant's epistemology, Kant's semantics of cognitive reference, and Kant's decidedly non-Cartesian philosophical method.[5] Scholarly attention has focused so exclusively on Kant's transcendental proofs and transcendental idealism that Kant's key methodological innovations have been neglected. Kant developed a new philosophical method for conducting his critique of pure reason, and for devising and assessing his transcendental proofs and his defense of transcendental idealism, called "transcendental reflection." Kant's account of transcendental reflection, like his name for it, are conspicuously rare, almost absent, from Kant scholarship. Yet Kant insists that

> transcendental reflection is a duty from which no one can escape if he would judge anything about things *a priori*. (A263/B319)

[4] Rorty (1979), 82–3; cf. Förster's (1989b, 14–15) reply.

[5] Bell (1999) likewise identifies and criticizes the Cartesian assumptions of recent analytic discussions of transcendental arguments.

If transcendental reflection is our methodological Kantian duty, lack of attention to it suggests that we have overlooked something very important for understanding and assessing Kant's *a priori* analyses.

Kant fostered some of this neglect by providing no comprehensive account of transcendental reflection. Chapter 1 highlights its key features. Kant uses transcendental reflection to identify several of our key cognitive capacities by identifying several of our key cognitive *in*capacities. These cognitive capacities are logically contingent, though transcendentally necessary conditions for the very possibility of human knowledge, indeed for the very possibility of self-conscious human experience. Kant identifies some of our cognitive capacities by using wildly counterfactual thought experiments. Four of these thought experiments are considered briefly to elucidate their role in transcendental reflection and to explicate how these thought experiments are to be properly appreciated. Each of these four thought experiments is examined extensively in later chapters.

Kant's epistemology highlights four integrated ways in which we are cognitively dependent on a commonsense spatiotemporal world; his semantics entails that the skeptical hypotheses which alone call such dependencies into question are themselves cognitively transcendent, idle speculations. Both of these aspects are required to prove, as Kant puts it, the reality of outer sense (Bxl–xli note, B276–7 note), namely that we sense and do not merely imagine perceptible objects distinct from ourselves. Both of these aspects are required to understand Kant's transcendental response to global perceptual skepticism, which concludes this book. I contend that this approach to understanding and reconstructing Kant's transcendental proofs yields a sound, genuinely transcendental proof of realism *sans phrase* regarding our empirical knowledge of molar objects and events in space and time.

The transcendental proof developed here differs markedly from those familiar in the literature. However, it is squarely based on a key transcendental proof of realism – and, surprisingly, for mental content externalism – that Kant himself provides, though without pursuing it to its surprising logical conclusion. I argue that this key transcendental proof ultimately shows that transcendental idealism is groundless, because Kant's arguments for transcendental idealism are unsound.[6] Kant's own

[6] In this regard, I present a strategy for meeting Stroud's (1999, 161) challenge to show how substantive results concerning how the world is can be reached by *a priori* epistemic reflection on the requirements for unified self-conscious experience, without invoking Kant's transcendental idealism.

transcendental analysis of the necessary *a priori* conditions for the possibility of unified self-conscious human experience ultimately provides a sound version of the standard objection to Kant's arguments for transcendental idealism, the so-called "neglected alternative." Hence I use Kant's own transcendental analyses to show that Kant's own transcendental idealism is untenable. Guyer's (1987, 417) criticisms of Kant's transcendental idealism are stated in terms "Kant would have understood." This is an important point of critical charity. My arguments take this charity a significant step further, by criticizing transcendental idealism squarely on the basis of Kant's own analyses in the Transcendental Analytic.

The significance of this result depends on the character of Kant's transcendental idealism, discussed in chapter 2. Kant's discussions of transcendental idealism frequently suggest that it is a highly metaphysical view, including the occurrence of causal events in a "noumenal" realm that transcends space and time. Historically, the standard interpretation of Kant's idealism was metaphysical. However, the idea that noumena or things in themselves causally affect our sensibility, and thus provide us with sensations, has been rejected on two basic grounds, forcefully advanced recently by Bird and Strawson: it is unintelligible because it distinguishes between appearance and reality in such a way that things cannot in principle appear as they really are, and it requires applying the concept of causality transphenomenally, *contra* Kant's Schematism of the Categories. In response to these and related objections, some recent scholars (*e.g.*, Prauss, Allison, and Buchdahl) have argued that such objections do not pertain to Kant's views, because despite some suggestions to the contrary, Kant's transcendental idealism is not metaphysical, it is only methodological or transcendental or only rests on two points of view or two kinds of description. Though prominent, such nonmetaphysical interpretations are now subjected to sustained criticism from scholars who once again defend metaphysical interpretations of Kant's transcendental idealism.[7]

In chapter 2 I defend a metaphysical dual-aspect interpretation of Kant's transcendental idealism. I focus on the test case of noumenal causality, which I argue is intelligible and is required out of fidelity to Kant's texts and doctrines. In general, transcendental proofs aim to establish *a priori* conditions necessary for our having self-conscious experience at all. Transcendental idealism holds that such conditions do not hold independently of human subjects; those conditions are satisfied because they are

[7] Adams (1997), Ameriks (1992), Guyer (1987, pt. 5), Rescher (1981), Westphal (1997b, 2001).

generated or fulfilled by the structure or functioning of our cognitive capacities. Kant argued repeatedly that transcendental idealism is the only possible explanation of the transcendental conditions of possible experience. Kant's analysis of human agency also shows that his practical philosophy is committed to noumenal causality, both from a first- and from a third-person perspective. The standard objection from Jacobi to Strawson is that Kant's transcendental idealism is incoherent. In reply, I argue that Kant's theory of meaning and his transcendental reflection on sensibility show how Kant legitimately can speak about, and determine that, our passive sensibility must be causally affected by nonspatiotemporal noumena. These points ground my criticisms of Allison's view of affection, and Strawson's view of meaning.

Showing that Kant's transcendental idealism is metaphysical underscores the significance of the conclusion to my reconstructed Kantian proof of realism (*sans phrase*). This proof entails realism, broadly construed, about molar objects and events in our environs. Showing why Kant's idealism is coherent also reveals some very important, though widely neglected features of Kant's semantics. Kant's semantics are important for his reply to global perceptual skepticism. Fortunately, my criticisms of transcendental idealism do not undermine Kant's semantics. Instead they indicate that Kant's semantics is separable from his transcendental idealism, and so is available for the revised transcendental proof of realism developed here.

In chapter 3 I argue that Kant was mistaken that transcendental conditions of possible experience require transcendental idealism. I further argue that Kant can be shown to be mistaken on the basis of his own transcendental proofs. I defend these claims by analyzing a widely neglected doctrine of Kant's, "the transcendental affinity of the sensory manifold." I argue for six claims: (1) This doctrine remains vital to the second edition of the *Critique*, even though many passages on the topic were omitted from that edition; (2) Kant's link between transcendental idealism and transcendental arguments is substantive, not methodological; (3) Kant's views on transcendental affinity show that there are nonsubjective, transcendental *material* conditions for the possibility of unified self-conscious experience; (4) These conditions and Kant's arguments for them directly undermine Kant's own arguments for transcendental idealism; (5) These points reveal some serious flaws in Allison's defense of Kant's idealism; (6) Realists of any stripe have much to learn from Kant's transcendental analysis of the conditions of unified self-conscious experience, because Kant's doctrine of the transcendental affinity of the sensory manifold provides a sound argument supporting the conclusion of his Refutation of Empirical Idealism, that inner

experience in general is only possible through outer experience in general. Indeed, Kant's analysis of transcendental affinity provides a transcendental proof of (not "from") mental content externalism.

Chapters 4 through 6 develop a second criticism of transcendental idealism internal to Kant's first *Critique*. Famously, one of Kant's central aims is to justify our causal judgments about spatiotemporal objects and events, and thus to answer Hume's skepticism about our knowledge of or beliefs about such relations. The standard view among Anglophone Kant scholars is that Kant's Transcendental Deduction of the category of causality fails, and that a sound argument to justify our causal judgments can be found, if at all, in the Analogies of Experience, especially the Second Analogy, which is almost universally supposed to contain Kant's "answer" to Hume's skepticism about causality. However, Strawson condemned Kant's argument as "a non-sequitur of numbing grossness"; a charge to which Beck (among others) responded vigorously.

Kant's justification of causal judgments in the Analogies is examined in chapter 4. This examination requires pursuing Kant's analysis of causal judgments much further into his *Metaphysical Foundations of Natural Science* (*MAdN*, or *Foundations* for short). These further issues are considered in chapters 5 and 6. One main point is that Kant was far more subtle about the issues pertaining to causal judgment than either his commentators, or other philosophers addressing these issues. On this topic, philosophers have much to learn from some careful Kant scholarship. Kant's "answer" to Hume is *not* provided by the Second Analogy! Kant's three Analogies of Experience form an integrated set; no one of the principles of causal judgment defended in the Analogies can be used without conjoint use of the other two. This important fact has been widely disregarded, although Guyer (1987) clearly identified it.[8] In chapter 4 I further develop Guyer's point, arguing that the integration of the three Analogies is even deeper, more thorough, and more important than he recognized. Ultimately, the integrity of the principles of the three Analogies entails that we can only make legitimate causal judgments about spatiotemporal objects and events.

Reexamining these issues about causal judgment reveals absolutely fundamental points about Kant's justification of causal judgments, including a fundamental flaw in the justification provided in the first *Critique*, a flaw

[8] Analytic preoccupation with Kant's Second Analogy, and general neglect of the Third, began with Strawson (1966) and Beck (1967); it persists, *e.g.*, in Van Cleve (1999), Stern (1999a; 2000, chapter 5), Greenberg (2001), and Bayne (2004).

Kant himself recognized. In 1787 and 1792 Kant noticed two basic problems with his *Foundations*. Their only solution is to divorce metaphysics from mathematics. When Kant did this in 1798, it opened a crucial gap, not only in the *Foundations*, but in the Critical system as a whole. Why is the *Foundations* so important to Kant's Critical philosophy? The *Critique of Pure Reason* defends the general causal principle that every event has a cause. However, the Analogies of Experience require the specific principle that every *physical* event has an *external* cause. This principle is not defended, indeed it is not even formulated, in the first *Critique* – nor is it often identified or defended (rather than assumed) in other philosophical analyses of causality. Only in the *Foundations* does Kant first distinguish these two causal principles, and only there does he attempt to justify the second, specific principle. Kant's defense of this specific causal principle in the *Foundations* is coupled with an important shift in Kant's view of the metaphysical basis of his transcendental philosophy, and with an ineluctably empirical basis of metaphysics. These two results, derived from central principles of Kant's Critical philosophy, subvert the fundamental structure of Kant's system of transcendental philosophy (below, §§35, 41, 48): transcendental philosophy cannot have its intended priority over Kant's Critical metaphysics.[9]

Kant's difficulties do not end there. Careful examination shows that Kant's justification of the specific causal thesis, that all physical events have an external cause, is irreparably flawed. Chapter 5 examines Kant's attempt to justify the application of mathematics to objects in natural science by metaphysically constructing the concept of matter. Kant develops these constructions in the *Foundations*. Kant's specific aim is to develop a dynamic theory of matter to replace corpuscular theory. In the preface to the *Foundations* Kant claims to completely exhaust the metaphysical doctrine of body. However, in the general remark to "Dynamics" (*MAdN*, ch. 2) Kant admits that once matter is reconceived as basic forces, it is impossible to construct the concept of matter.

I argue that Kant's admission is only the tip of the problem. I show that Kant's proof that matter consists of forces is fallacious. I then reanalyze and substantiate the circularity in Kant's definition of density. These two

[9] Among Anglophone commentators, Kant's systematic hierarchy, in which transcendental philosophy grounds Critical metaphysics, which in turn grounds empirical physics (Förster 1989a, Dahlstrom 1991, Falkenberg 2000; Fulda & Stolzenberg, eds., 2001) has been widely dismissed or neglected, which has impoverished our understanding of Kant's philosophy. I hope the present book may contribute to correcting this oversight.

fundamental problems demonstrate the untenability of Kant's metaphysical method, and they require the radical revision of the relation between mathematics and metaphysics Kant undertakes in his *opus postumum*. I show that some of Kant's most surprising and critical later claims about the Critical philosophy are correct, and that they require the sorts of remedies Kant contemplates in the *opus postumum*.

These are very significant findings, at least within Kant's Critical philosophy. However, there are further difficulties. Chapter 6 examines Kant's key aim of justifying Newtonian mechanics by showing how physics as a rational science is possible. According to Kant's *Foundations*, a proper science is organized according to rational principles and has a pure *a priori* rational part, its metaphysical foundation. In the preface to the B edition, Kant claims that his account of time explains the *a priori* possibility of Newton's Laws of Motion. I argue that Kant's proof of the Law of Inertia fails, and that this casts grave doubt on Kant's enterprise of providing *a priori* foundations for Newton's physics. Hence even if Kant's transcendental and metaphysical analyses of causal judgment were sound, they would fail to achieve another of Kant's key aims. More importantly, the failure of Kant's proof of the Law of Inertia also marks the failure of Kant's transcendental idealist proof of the specific causal thesis, that every physical event has an external cause. Thus Kant's transcendental idealism fails to deliver Kant's promised "answer" to Hume. Viewed systematically, Kant's Critical metaphysics also cannot have its intended priority over physical science and empirical fact.

The irreparable flaw in Kant's metaphysical proof of the Law of Inertia underscores the failure of Kant's attempt to underwrite physics by philosophy, and strongly suggests the impossibility of providing such philosophical foundations of physics, whether transcendental or metaphysical (in Kant's Critical sense of the term). These findings strongly reinforce the philosophical turn, away from Kant's foundational program, based in his untenable and systematically inadequate transcendental idealism, towards a broadly realist approach to epistemology. Unique to my development of this theme is that this turn towards realism can and ought to make central use of Kant's transcendental reflection and can and ought to learn much from Kant's own transcendental proofs of the necessary conditions of the very possibility of our self-conscious experience. In this way, the critical findings of chapters 4 through 6 reinforce both the critical and the constructive findings of chapter 3.

Examining Kant's analyses in such detail also reveals some important philosophical insights. Chapter 7 develops four of these, regarding freedom

of action, causal judgment, Kant's anti-Cartesianism, and global perceptual skepticism. Kant contends that our freedom of thought and agency can only be defended by transcendental idealism. If that were correct, my criticisms of Kant's arguments for transcendental idealism would have drastic implications for Kant's account of rational agency. I argue that these implications do not hold. Instead, the debate about the relation between the (phenomenal) psychological realm and our (noumenal) rational freedom is moot because, although he only notes it once, Kant in fact argues that psychological determinism is in principle unknowable, even in the phenomenal realm. This is the joint conclusion of Kant's Analogies and Paralogisms. Kant contends that causality is strictly related to substance. The three Analogies form a mutually integrated set of principles. Kant's Paralogisms show we have no knowledge of a substantial self. If we have no evidence of a substantial self, then we cannot apply any of the principles of the Analogies to the self. Consequently, we cannot justify any determinate causal judgments in psychology (as Kant understood it). Hence determinism is in principle unjustifiable even within *empirical* psychology. This result suffices, on Kant's views, to permit us to appeal to moral considerations to settle the question, as well as we can, whether we are free. Kant's Incorporation Thesis and his account of moral responsibility provide sufficient grounds to answer affirmatively.

This book provides ample evidence of Kant's fallibilism and externalism. "Externalism" is the view that factors of which a subject is not or perhaps cannot be aware have a significant bearing on that subject's "mental" contents, semantic meaning, or the justificatory status of his or her beliefs. The term coins recent developments within analytic philosophy of mind, philosophy of language, and epistemology. The idea, however, is not new. Kant was the first great non-Cartesian. His transcendental analyses of the necessary conditions for the very possibility of self-conscious human experience aim to uncover a host of factors of which people ordinarily are quite unaware (by Kant's account, no one was aware of them prior to 1781) that alone provide the necessary framework within which human beings can so much as have beliefs or consider questions about their justificatory status. Kant was a staunch justificatory externalist *avant la lettre*. Kant's externalism, however, does not beg the question against global perceptual skepticism: Kant's externalism need only be true, it need not be known to be true, to serve the role Kant assigns it in his transcendental proofs, in which Kant does not, and need not, appeal to his externalism as a premise.

I contend that Kant's attempts to eliminate the possibility of alternatives to the specific causal principle, that every physical event has an external

cause, are excessively preoccupied with the infallibilist notion of justification that is central to Cartesian-Humean skepticism, and to Kant's demonstrative, "apodictic" ideals of transcendental, metaphysical, and systematic knowledge. The proper solution to Kant's problems about causal judgment lies instead in developing further our understanding and use of Kant's transcendental reflection and his semantics of cognitive reference. In principle the alternatives to the specific causal principle are cognitively transcendent, idle metaphysical speculations. The solution to these worries lies in appreciating both the strengths and the limits of our cognitive situation as human beings. Identifying and appreciating these is precisely the aim of transcendental reflection. If we appreciate these, we can understand, assess, and accept a revised, genuinely Kantian transcendental proof of transeunt causality in the form of the metaphysical causal principle. This provides a genuinely transcendental proof of realism *sans phrase*. This is a second, genuinely transcendental argument *for* mental content externalism.

Recent devotees of analytic transcendental arguments have found Kant's response to perceptual skepticism wanting, a view prominently advocated by Stroud. I argue that Kant's semantics of cognitive reference suffice to show that global perceptual skepticism is a prime instance of transcendental illusion. Demonstrating this reveals several key assumptions and oversights in Stroud's presentation of global perceptual skepticism. This shows that such skepticism is not at all the innocent, commonsensical phenomenon Stroud claims. Global perceptual skepticism rests on deceit and *petitio principii*, in ways revealed by Kant's transcendental proof of realism.

Chapter 7 thus contends that, *pace* Kant, transcendental idealism is not necessary for responding by transcendental proof to global perceptual skepticism, nor is it necessary for defending the theoretical possibility of free rational action; instead, it is a desperate gasp of a misleading and dispensable infallibilism, a view already undermined and replaced by Kant's fallibilist "new way of thinking," transcendental reflection. In sum, transcendental affinity provides a genuine transcendental proof of (not "from") mental content externalism. This proof entails that transcendental idealism is false, and identifies the key fallacy in Kant's arguments for transcendental idealism. Transcendental idealism also fails to underwrite Kant's analysis of causal judgments, because Kant's *Foundations* fails to fill the "gap" Kant identified in the first *Critique*. Four integrated "externalist" aspects of Kant's epistemology are identified, concerning the source of sensations, mental content, the objects of causal judgment, and justification: Kant is a fallibilist about empirical knowledge and about epistemology. This book defends a transcendental proof of realism *sans*

phrase about physical objects, and argues that this is the ultimate implication of Kant's own transcendental analysis of the *a priori* conditions for the possibility of human experience.

I close with a *caveat*. One implication of my analysis is that we must carefully reconsider Kant's core arguments in the Transcendental Deduction. By design I discuss only the necessary minimum about Kant's Deduction (summarized in §65). I am convinced that we must completely reconsider the Deduction in view of Kant's account of transcendental reflection, in view of the constructive and critical arguments developed below, and most importantly, in view of Michael Wolff's (1995, 1998, 2000) brilliant reconstruction of Kant's completeness proof for his Table of Judgments. This task requires another book.

CHAPTER 1

Kant's methods: transcendental and epistemic reflection

1 EPISTEMIC REFLECTION IN KANT'S *CRITIQUE OF PURE REASON*

1.1 *Kant's non-Cartesian philosophy of mind*

Kant insisted that the problems addressed by the first *Critique* can only be resolved by a "changed method of thinking" (Bxviii). He introduces this thought in connection with transcendental idealism. However, Kant's epistemology, his transcendental investigation of human cognition, likewise involves a "changed method of thinking." Kant based his epistemological arguments on an inventory of our basic cognitive capacities to employ our forms of intuition and our forms of judgment (A66/B91, B145–6; O'Neill 1992). One way to put the key issue this raises is whether Kant's view, that "to know what one's inner states are like is to *make judgments* of certain kinds," is an insight or is just another philosophical view.[1] Kant proposes a non-Cartesian philosophy of mind by maintaining that our understanding can "only think," that is, connect representations, whereas our sensibility can only provide, but not connect, representations (B130, 134–5, 145). If that is so, and if indeed our sensibility is *only receptive*, a mere susceptibility to stimulation by things distinct from us (A19–21/B33–5, A50–2/B74–6), then "inner experience" cannot have Cartesian primacy over "outer experience."[2]

[1] The first view is Bennett's (1979, 52); cf. Strawson (1966, 24–9), Guyer (1984); the second is Körner's (1979, 65).

[2] Cf. Stroud (1983, 146): "If 'inner experience in general' is possible only if 'outer experience in general' is possible, and if 'outer experience' is the immediate, direct perception of external things, we can know of the existence of things around us without having to determine independently in each case or in general that there is any external reality corresponding to our sensory experiences." Stroud's point about the significance of philosophical skepticism concerns whether or how we can establish the second conditional. The fact that he divides these two conditionals reflects his Cartesian predilections (see §63). The present study develops a new account of Kant's strategy for

Somewhat more fully, Kant's non-Cartesian philosophy of mind involves six theses:

(1) Our senses are passive (A19–21/B33–5, A50–2/B74–6; 3:49–51, 74–6);
(2) Sensations are caused by something other than us, but this causal relation does not suffice for sensations to *represent* their causes (sensationism; George 1981);
(3) Our senses cannot combine or provide any representation of combination among our sensations (B130);[3]
(4) Our understanding "can only think," that is, can only combine representations in judgments (B135, 145);
(5) Such judgmental combination of sensations is required to perceive objects and to ground perceptual cognitive judgments.

If these theses are all true of us, then indeed any self-conscious experience we could enjoy requires (though it may not consist solely in) experience of mind-independent objects, which are the source of sensations (1, 2). These objects would appear spatiotemporally if it were further maintained that

(6) Our senses only represent phenomena spatiotemporally.

Thesis (6) has been formulated to reflect Kant's transcendental idealism, though also to allow simple modification if Kant's idealism is untenable (see below, §§2.4, 27, 58).

Such provocative, unconventional theses reinforce the question, why believe any of Kant's theses, rather than their familiar Cartesian alternatives? More pointedly, Kant appears to assume them without proof (cf. Bittner 1979, 28, 32). We should not, however, hasten to reject Kant's undertaking. As Stroud (1994a, 242–3) notes, how we can have and recognize ourselves as having certain determinate kinds of experiences is a question that has not often been taken seriously enough.[4]

Why should we believe Kant rather than Descartes or Hume about these matters? How can or should consensus about our cognitive capacities – the building materials of human knowledge (A707/B735) – be reached? Who

establishing the first conditional, of which the second is a mere explication (once the misnomer "immediate" is corrected; at the empirical level, Kant rejects representationalist theories of perception, though the perception of spatiotemporal objects is a complex cognitive achievement).

[3] Regarding Kant's reasons for (3), see Howell (1992, 70–89, 105–11).

[4] *E.g.*, by Brueckner (1991), whose Cartesian assumptions altogether occlude the key points of Kant's analysis.

are we exactly, and what are our cognitive capacities (cf. Seebaß 1984, 250; O'Neill 1992; Stroud 1994b, 292)? Kant grants that no further grounds can be given to explain why we have our particular forms of judgment and intuition (B145–6). This admission reemphasizes the importance of Kant's attempts to show that we *do* have *these* cognitive capacities rather than any others.

These questions have been occluded in many recent discussions by a certain way of interpreting the Kantian phrase, "necessary transcendental conditions of possible experience." Especially in discussions of "analytic transcendental" arguments, "possible experience" has been taken to mean "possible *per se*." Perhaps the clearest example of this is found in Rorty, who observes:

> Arguments of the Strawsonian type rest on considerations of which words can be understood independently of which other words. The relevance of these considerations vanishes if we admit the possibility of a being who could experience something as an *X* but could not use the word "*X*" nor any equivalent expression. (Rorty 1970, 224; cf. 231)

Rorty (1970, 235) further claims that the best transcendental arguments can do is to issue "a challenge . . . to explain what sort of judgments could be made by a being who lacked both physical-object concepts and experience concepts," though all this does is "to show that the task of the skeptic is more difficult than it first appears."

This broad construal of "possible experience," resting on a notion of possibility *per se*, is irrelevant to Kant's analysis. Kant insists on the possibility of other kinds of cognizant beings, and the kind Rorty proposes would not perturb Kant. Rorty's considerations are relevant *to us* only if *we* are the sort of being Rorty indicates.[5] Kant argues that we are not that sort of being at all; we are instead of the kind partially specified by the six theses stated above. Kant is right that the question "What can I know?" is intimately connected with the question, "What is it to be human?" (A805/B833).

Descartes wrote meditations rather than disputations in part in order to encourage his readers to identify and reflect on their own, God-given cognitive nature and stock of innate ideas. This was wise in one important regard: although it can be reported to others, some kinds of evidence can only be had first person (Westphal 1987–8, 108–9). In particular, this includes certain kinds of evidence pertaining to whether a

[5] For a similar oversight, see Gram (1973, 254–5).

philosophical analysis holds true *of us*. Kant's inventory of our most basic cognitive capacities provides the bases for his transcendental analysis of the necessary conditions for the very possibility of self-conscious human experience. Kant's inventory can be established and assessed only collectively (O'Neill 1992). Establishing and assessing Kant's inventory involves a kind of philosophical reflection on our own cognitive capabilities and their preconditions that is significantly richer than has been noticed by most commentators, though it does not involve Kant's transcendental psychology. Rather, it involves some of Kant's transcendental logic.[6]

Below (§2) I explicate certain thought experiments Kant proposes to enable us to recognize some of our basic, characteristic cognitive capacities, and some limits and requirements they entail for the nature and objects of human knowledge. These thought experiments involve reflecting on our basic cognitive capabilities and circumstances, on who we as cognizant subjects are. Kant realizes that, like any other productive epistemology, his epistemology requires some substantive, nonanalytic premises. These premises cannot be justified by any more basic premises, nor can they be justified as the sole logically possible premises. They can be justified only by careful, guided reflection on what is cognitively possible *for us*. This kind of reflection is closely allied with what Kant calls "transcendental reflection." Because Kant defines "transcendental reflection" quite specifically and narrowly, I shall instead call this "epistemic reflection."[7] I begin by considering briefly Kant's "transcendental reflection."

[6] Rorty (1979b, 80) supposes that Kant's claims about our cognitive capacities are based on Cartesian self-transparency. Nothing could be further from Kant's view (cf. Longuenesse 1998, 114 22). Readers swayed by Strawson's rejection of Kant's transcendental psychology should know that he retracted his "somewhat rude" condemnation (Strawson 1989, 77), as one would expect from his subsequent work (Strawson 1970, 1979).

[7] I have become convinced, especially by Wolff's (1995, 1998, 2000) outstanding work on Kant's Table of Judgments, that Kant chose his terminology and classifications very carefully, and we disregard them at our philosophical and exegetical peril. Hence I shall introduce the term "epistemic reflection." Few commentators consider "transcendental reflection" in any detail; see Schnädelbach (1977, 87–133), Malter (1981, 1982), Henrich (1989, 40–6), Longuenesse (1998, 113, 123–7, 156 n; cf. 203 & note 13), and Willaschek (1998). The summary I provide here of epistemic reflection should be read in the context of these discussions. Paton, Prauss, Buchdahl, and Allison recognize the importance of transcendental reflection to Kant's undertaking, though without investigating Kant's account of it in any detail. Paton (1936, 1:226–32) refers to "transcendental knowledge." Allison (*KTI* 67, 143–4, 241, 243, 275; cf. 268) refers to transcendental reflection only in passing. Buchdahl (*KDR* 74, 79–83, 114) substitutes his own version of transcendental reflection for Kant's, or (alternatively?; *KDR* 80) espouses a "suitably generalized" version of Kant's concept of transcendental reflection. Prauss (*Ding* 66–85, 213f.) develops his own version of transcendental reflection.

1.2 *"Transcendental reflection" defined*

In the A Paralogisms Kant remarks, "now it is indeed very illuminating that whatever I must presuppose in order to know an object at all, I cannot itself know as an object (*Object*)" (A402). Thus introspection of "inner" objects or states is highly misleading. The *a priori* conditions of knowledge, which largely consist in capacities and functions (not introspectible objects), can only be discovered indirectly, by reflection. The relevant kind of reflection is "transcendental reflection," defined as

> the action through which I compare representations in general with the cognitive power in which they are situated, and through which I distinguish whether they are to be compared with one another as belonging to pure understanding or to sensible intuition. (A261/B317; cf. A260/B316)

Transcendental reflection is important, Kant explains, because it concerns not the logical form but the cognitive significance of our representations (whether concepts or intuitions), to determine whether or under what conditions they can ground universal, particular, affirmative or negative judgments. In so doing, transcendental reflection determines whether or how the representations in question, which are potential components of cognitive ("objective") judgments, related as they happen to occur in our thoughts, *ought* to be related in our judgment (A261–3/B317–19). This counts as reflection because it considers representations in connection with our cognitive capacities (*Erkenntnisvermögen*); this reflection is transcendental because it concerns our capacity to form legitimate judgments *a priori*. This is why transcendental reflection is crucial to Kant's transcendental logic, which, as a division of the first *Critique*, includes both the transcendental analytic and the transcendental dialectic.

Kant insists that

> transcendental reflection is a duty from which no one can escape if he would judge anything about things *a priori*. (A263/B319)

Here Kant warns us directly that disregarding transcendental reflection would thwart anyone's search for a sound analysis or proof in the first *Critique*. Disregard of transcendental, or more broadly, epistemic reflection leads to spurious perplexities such as Körner's (1966, 464; cf. Stroud 1989, 38) about whether *a priori* transcendental judgments are either analytic (in which case they cannot justify *a priori* synthetic judgments) or are synthetic, in which case an infinite regress threatens. This concern disregards Kant's express statement that his transcendental investigation

cannot be purely analytic, but must identify sufficient grounds to justify *a priori* certain synthetic propositions (A216–18/B263–5; quoted below §19). The alleged regress is ended, in Kant's view, by identifying our basic cognitive capacities and incapacities. This is the central task of epistemic reflection, where the epistemic implications and legitimate cognitive roles of our capacities are identified by transcendental reflection.

1.3 *"Epistemic reflection" defined*

According to Kant, "empirical reflection" is (a more or less Humean) introspection of the contents of one's mind, which is not a philosophical enterprise. Kant contends that mere introspection cannot reveal the relevant conceptual, perceptual, or sensorial capacities of human cognition; introspectible mental contents or objects do not reveal our cognitive *capacities*. "Logical reflection" is an analytical clarification of the logical form and interrelations among representations, regardless of their cognitive role (A262–3/B318–19). "Transcendental reflection" determines the origins of key cognitive representations in sensibility, understanding, or reason, and the *a priori* roles and relations of these representations in cognitive judgment, and thus their contributions to the possibility and validity of knowledge, especially of synthetic knowledge *a priori*.

I introduce the term "epistemic reflection," as distinct from Kant's very specific kind of transcendental reflection, to highlight the importance, within Kant's transcendental investigation of our cognitive competence, of our determining just what our most basic cognitive capacities are. This task is crucial for providing the inventory of our cognitive capacities on which transcendental reflection, and ultimately also transcendental analysis and proof, rely. Philosophically, this task is crucial for determining whether Kant's inventory of cognitive capacities holds true *of us*.

Epistemic reflection is guided by several of Kant's thought experiments, carefully designed to highlight our basic cognitive capacities, by highlighting some of our basic cognitive *incapacities*. Understanding and assessing these thought experiments requires considering carefully, not the question "Are there any logically possible alternatives to Kant's account of this example?," but rather, "Are there humanly possible alternatives to Kant's account of this example?" Put otherwise, "Are we – are *you* – cognitively incapacitated in the way Kant contends by the circumstances he describes?" Kant takes seriously the notion that epistemology involves, requires, and generates self-knowledge. We should do likewise, if we are to understand, assess, or benefit from Kant's achievements.

One might protest that Kant and I have construed "introspection" too narrowly, as the awareness of mental objects, such as Humean impressions, and that in a broader sense, Kantian epistemic reflection may be a kind of introspection. However, it is important to distinguish between philosophical – in the present case, epistemic – reflection and introspection, for analytic philosophers have uniformly followed Mill in equating reflection with introspection (Scharff 1995) in a Humean sense, as the finding of particular mental contents as objects of mental awareness; "sense impressions" as it were (*e.g.* Rorty 1970, 216). Searching only for these will leave us bereft of Kantian insights, for Kant investigates our cognitive capacities, not any contingent assortment of allegedly mental objects or contents. Conflating Kant's epistemic reflection with introspection guarantees misunderstanding, if not missing, many of Kant's most important invitations and provocations to reflect philosophically. Kant rightly insists that we have language sufficient to mark such distinctions, which we ignore at our philosophical peril (cf. A319–20/B376–7).

2 EPISTEMIC REFLECTION IN KANT'S TRANSCENDENTAL THOUGHT EXPERIMENTS

2.1 *Introduction*

One of Kant's thought experiments concerns his claim that we cannot represent to ourselves the absence of space (A24/B38). Another is Kant's claim that each of us must be able to identify our representations as our own, "for otherwise I would have as multicolored, diverse a self as I have representations of which I am conscious" (B134). A third is that "only under the presupposition of diversity in nature, just as it is only under the condition, that its objects have homogeneity among themselves," are we at all capable of self-conscious experience.[8] The fourth concerns the fact that the three Analogies form a tightly integrated set of mutually supporting principles, so that we can only identify coexistence or succession by discriminating each from the other. I discuss each example in turn, and then their joint implications.

[8] A657/B685, cf. A90–1/B122–3, A653–4/B681–2; A100–1, A108, A121–3.

2.2 *Experiment one: space*

Kant begins his discussion of space (or its concept, as he notes in B) by stating, "Through outer sense (a property of our mind) we represent to ourselves objects as outside us, and all of them in space" (A22/B37), and he notes that "[t]ime cannot be intuited externally, any more than space can be intuited as something in us" (A23/B37). As a premise in his argument that space is a necessary *a priori* representation that is basic to all our outer intuitions, Kant claims that "one cannot make oneself a representation that there be no space" (A24/B38), though we can of course think of space as an empty void. To represent and to recognize something intuited *as distinct* from us, *as outer*, or *as having* determinate spatial characteristics (A22/B37) requires that we have both a way to represent space and a concept of space by which to specify (to "determine," Kant says) these parameters. He argues analogously about time and its concept (A31/B46).[9]

A host of questions are raised by Kant's "second expositions" of space and time and their concepts (Falkenstein 1995, 186–216). Kant's main point concerns a contrast between what we can think, which is limited only by the law of noncontradiction and the wilds of our imagination (Bxxvi note), and what we can represent to ourselves. His main point is that we cannot have sensory experience of objects distinct from us unless those objects are represented and recognized as being spatial and in space (A22–3/B37), and analogously, as enduring through at least some period of time (A31/B46). Our sensory experiences are inextricably temporal, and a prominent class of them are inextricably spatial (Falkenstein 1995, 195–9). The inextricably spatial character of a key set of our representations is crucial, for this

[9] Much more is at issue in Kant's argument; see Melnick (1989), 190–2. His analysis is very helpful, even if his claim about the performance aspect of Kant's account of space and time can mislead. He interprets Kant as holding that "only if space *is* performance (flowing) can it be extensive or a continuum." Hence Kant is said to conclude that "space is not something thought, but rather an activity or a performance" (6). However, the "performance" aspect of Kant's account of space and time concerns what Kant calls "figurative synthesis" (B151–2), which alone enables us to determine – to construct and judgmentally demarcate – the spatial and temporal parameters of what we perceive. Although performances occur within the "flow" of space and time, space and time themselves are not "performances," though our judgmental determinations are (*pace* 196). Here I can only suggest that space, as a form of intuiting, enables us actively to determine the spatial parameters of what we intuit, and that space as a formal intuition is actively constructed by us in figurative synthesis (B160 & note). (On figurative synthesis, see Baum 1986, especially 108–12, 129, 136–42; and Longuenesse 1998, 221–2, 252, 267.) The ostensive actions Melnick highlights require these features of space, but their reflecting these features of space does not justify equating them with space. Analogous points hold for time. Fortunately, correcting Melnick's hasty equation leaves his very insightful positive account intact.

spatiality is necessary both to identify and to reidentify particulars distinct from ourselves.[10]

Though it is logically contingent that our way of representing objects distinct from ourselves is spatial, Kant's point is that this is nevertheless a fact. Concepts or representations of space and time are necessary, ineluctable grounds of *our* possible representation of what we experience. Kant's claim is not based simply on introspection, on taking an inventory "in the mind's eye," as it were, of the contents of our consciousness. Kant's claim is based on our inability to perform a certain kind of act, of "making ourselves a representation" of the absence of space, or analogously of time (A31/B46; cf. Melnick 1989, 28–9; Longuenesse 1998, 229). Hence Kant's claim is about our cognitive capacities, not about the contents of our imagination, and Kant's claim is based on epistemic reflection, not simple introspection. Yes, Kant takes himself as a representative human cognizer (A12–13/B26), but he cannot, and does not, take his own psychological states as a representative sample. Instead, Kant contends that our cognitive capacities can only be revealed indirectly, through the kinds of reflection, analysis, and argument discussed here. Kant's claim is not based on his failure to identify among his representations one that represents the absence of space. Instead, Kant notes these facts about our capacities to represent and identify items in space and time, and uses them to help determine what we can make intelligible sense of in cognitive contexts (cf. Schnädelbach 1977, 114, 118). Our capacity or incapacity for various cognitive acts is central to Kant's epistemic reflection, not the mere presence or absence of supposed mental objects of those acts.[11]

Kant of course grants that there may be beings who have different forms of understanding or sensibility than ours (B72, 138–9, 145, 159, A286–8/B342–4). Such beings may not require representations of space or time or of the "I think" to represent what they experience. However, Kant neither has nor needs to offer an epistemology on their behalf; his concern is with the scope and limits of *human* knowledge (Harrison 1989, 54; Stroud 1994a, 292). *Of course* epistemology will seem bankrupt, and skepticism unanswerable, if our basic cognitive capacities are disregarded. (This is the ultimate lesson of Gettier 1963; cf. Kitcher 1992, 59.) Hence Kant attends,

[10] Strawson (1974b), 15–16, (1989), 72, (1992), 54–6; O'Neill (1976); cf. Rosenberg (1978).

[11] For further discussion see Hanna (2001), 214–20. Falkenstein (1995, 196) regards Kant's Second Exposition as significant, though he too discusses it solely in terms of introspection.

much more carefully than he has been credited with, to determining what they are.

2.3 *Experiment two: self-ascription*

More sympathetic attention has been given to Kant's thesis that each of us must be able to identify our representations as our own, "for otherwise I would have as multicolored, diverse a *self* as I have representations of which I am conscious" (B134, tr. G&W; cf. A111, A112).[12] Kant's term "*verschieden*" (translated as "diverse") connotes either qualitative or quantitative distinctness. While not as strong, say, as "*verteilten*" ("distributed"), Kant uses it here to contrast with the analytic unity of apperception so as to emphasize the lack of such unity in the indicated circumstance, in which we would have, at most, only flickering moments of sensory consciousness, though (Kant argues) no self-consciousness. Beforehand Kant says this directly, using a yet stronger term:

> For the empirical consciousness which accompanies diverse (*verschiedene*) representations is in itself dispersed (*zerstreut*) and without connection to the identity of the subject. (B133)

Kant's main point is that individual sensory states, whether Humean "impressions of sense" or twentieth-century "sense data," at most account distributively for particular awarenesses of various individual sensory qualities; they do not account, not even *en masse*, for anyone's awareness of a plurality of sensory qualities. Any "I think" involved in recognizing such a plurality as a plurality of *one's own* sensory states requires recognition of each state, recognition that each is a state of awareness of one's own, and recognition that this state is one among many such states. This collective awareness is an intellectual achievement that cannot be accounted for by any mere batch of (alleged) sensory states. Kant's grounds for asserting that this collective awareness is an intellectual, indeed a judgmental achievement are that such awareness cannot be accounted for by the mere occurrence of a plurality of sensory states (B131–5), nor is it achieved or otherwise indicated by any privileged sensory state. Nothing in the content of our sensory states marks them as "our own"; in this Kant

[12] For critical discussion of Kant's claim, see Baum (1986, 93–118), Guyer (1987, 136–49; 1992, 150–2), Howell (1992, 155–90), Keller (1998), and Greenberg (2001). I believe that at least some of Howell's criticisms do not take Kant's Paralogisms properly into account. Kant's Analogies and Paralogisms form an integrated set of arguments (see below, §61). Several recent approaches to Kant's account of transcendental apperception are discussed by Ameriks (1994).

agrees with Hume. This collective awareness is a single representational state that represents the plurality of individual sensory states, and this single representation of a plurality of sensory states is itself intellectual, not sensory.

Kant's point is reinforced by his insistence that we apprehend (take in, receive) sensations temporally, regardless of whether they result from inner causes or outer things (A98–9, 4:77.3–11). Even in the case of a temporally extended sensation (if there is such in human experience), or a temporally extended series of qualitatively identical sensations, our recognizing the temporal extent of such sensations requires judgmental synthesis of the specious moments of time through which such a series endures. Merely having such a series cannot account for our recognizing its duration or persistence.

Recognizing a plurality of sensory representations as one's own is necessary for gaining any stable knowledge – or even stable beliefs – about what we experience.[13] Such recollection requires more than that some current state be caused by some prior, putatively recollected state. It requires that our present recollection be, and manifestly be, of a prior state *of our own*. Hume's causal account of memory fails to meet this requirement.[14] Part of Kant's point is that the mere occurrence of a recollection-impression within a bundle, or the mere inherence of a representational state, the object of which happens to be past, within a Cartesian mental substance do not suffice – not for beings like us – to identify those states either as our own or as representing something past, so as to be able to base cognitive judgments on them. We recognize particulars by recognizing a number of their sensory qualities. Recollection of the kind just indicated is required both for the recognition of any stable object or of any process (whether motion or transformation) over any period of time, however short, as well as for the recognition of any personal history of experiences, however brief or long, however haphazard or integrated it may be.

The thought experiment signaled here by Kant's "otherwise" (B134) is to reflect on the implications of our only having fleeting episodes of unself-conscious "empirical" awareness, that is, sensations, which would indeed enable us only to have "as multicolored, diverse a *self* as I have representations of which I am conscious." Epistemic reflection on this wildly

[13] This point is reinforced by Kant's clear anticipation of the perceptual "binding problem"; see below, §22.1.

[14] Stroud (1977a, 124–6, 135–40); Yandell (1990, 108–10).

counterfactual state of affairs underscores and should support our endorsing Kant's conclusions that the analytic unity of apperception is necessary for any of the unified self-conscious experience we enjoy, and that this analytic unity of apperception is rooted in the synthetic unity of apperception through which alone we can grasp various sensory representations as belonging together in the perception of any one object or event, and through which alone we can grasp various sensory perceptions of objects or events as belonging to our own first-person experience and its history (B131–6).[15]

2.4 *Experiment three: transcendental affinity*

Kant bases a third important claim on our reflecting on a wildly counterfactual circumstance. Kant claims: "only under the presupposition of diversity in nature, just as it is only under the condition, that its objects have homogeneity among themselves, do we have understanding (*Verstand*)" – or self-conscious experience – at all.[16] If the synthetic transcendental unity of apperception is the key necessary "mental" condition for the possibility of self-conscious experience (§2.3), the transcendental affinity of the sensory manifold is one key necessary material condition. Kant's ultimate point, stressed and augmented throughout this study, is that the *a priori* transcendental conditions necessary for cognitive judgment are both "mental" and material. Both kinds of conditions must be satisfied if we are to make successful cognitive judgments, without which we could not be self-conscious.

Kant contends that appearances must be associable if we are to be able to make cognitive judgments. If self-conscious experience is possible at all, then this associability of appearances must have an objective ground, which Kant calls the "transcendental affinity of the sensory manifold" (especially A121–3).[17] This requirement follows from the fact that a complete human sensibility and understanding, capable of associating perceptions, does not of itself entail that any sensations, appearances, or perceptions it has are in fact associable (the analogous problem arises regarding each of these). If

[15] This key thought experiment comes from the B Deduction; its point is amplified by the next two experiments. The B Deduction takes theses 3, 4, and 6 (above, §1.1) as premises (B129–30, 135, 136 & note, 137, 145–7). In this regard, Kant's justification of and in the B Deduction rests centrally on the thought experiments highlighted here, and thus requires transcendental reflection. (Kant's Deduction is summarized in §65.)

[16] A657/B685, cf. A90–1/B122–3, A653–4/B681–2; A100–1, A108, A121–3.

[17] The most important passage on this topic (A121–3) is analyzed below, §23.5.

they were not, there may be fleeting episodes of empirical consciousness (*i.e.*, random sensations), but there could be no unified self-conscious experience. In part this is because irregular perceptions do not afford reproductive synthesis; they afford no psychological association, and so provide no basis for developing empirical concepts or for using categorial concepts to identify objects. Kant argues that it is a necessary (though not sufficient) condition of unified self-conscious experience that our sensations (in effect) satisfy Hume's laws of association. If our sensations were disorganized to such a degree that they did not satisfy those conditions to any humanly detectable degree, then the most we could have is the "multicolored, diverse self" discussed above (B134; §2.3).

Kant makes this point by describing a radically counterfactual circumstance, on which we ought to reflect epistemically:

> If among the appearances offering themselves to us there were such a great a variety – I will not say of form (for they might be similar to one another in that) but of *content*, i.e., regarding the manifoldness of existing beings – that even the most acute human understanding, through comparison of one with another, could not detect the least similarity (a case which can of course be thought) . . . [then] no concept of a genus even, nor any other universal concept, indeed *no understanding at all would obtain*, since it has to do solely with such [concepts] . . . [Hence] homogeneity is necessarily presupposed in the manifold of a possible experience (although we cannot determine its degree *a priori*), because without it no empirical concepts and hence no experience would be possible. (A653–4/B681–12)[18]

Significantly, Kant identifies the relevant kind of similarity as a matter of the content (*dem Inhalte*) or "the object" (A112–3), rather than the form, of appearances. Kant thus indicates that the regularity of the objects of (or in) experience is a *material* condition. The fact that it concerns *relations* among the characteristics of the contents of experience indicates that this is also a "formal" condition, in Kant's sense; it concerns orderability. The consequences of the lack of such similarities are of transcendental import: failing such recognizable similarities and differences, we would have no empirical concepts, no use of our schematized categories, indeed no (functioning) *understanding*, and hence no self-conscious experience. Consequently, this principle is constitutive of the possibility of self-conscious experience. Below some minimum degree of regularity among the matter of sensation,

[18] Emphases added; tr. G&W, emended. Notice that the last sentence rightly emphasizes that this is a constitutive, and not only a regulative, issue. I have elided Kant's mention, in this passage, of the "logical law of genera." At this constitutive level, this logical law coincides with transcendental affinity of the sensory manifold (see §22).

appearances, or the objects of experience (the analogous point holds in each case), there can be no recognition of objects or regularities; hence there could be neither empirical concepts nor *any* employment of the understanding; hence there could be no self-conscious human experience. (Above that minimum, there is a reflective, regulative issue concerning how much those recognized regularities can be systematized.)

In the extreme case posed by Kant, where there is no detectable regularities or variety within the contents of our sensory experience – call it "transcendental chaos" – there could be no human thought, and so no human self-conscious, at all. This transcendental proof establishes a conditionally necessary constraint on the sensory contents provided to us by the objects we experience.[19] (This argument is developed in chapter 3.)

2.5 *Experiment four: the integrity of the Analogies of Experience*

Kant's next step is to introduce a further constraint on the contents of experience that involves "objectivity concepts." Kant's response to Hume's analysis of causal relations has been widely misunderstood, most importantly by supposing that the principles of the three Analogies of Experience are mutually independent, so that Kant's "answer to Hume" is in the Second Analogy, which requires only selective appeal to the First, and permits disregard of the Third, Analogy.[20]

Instead, Kant's three Analogies form a tightly integrated set of mutually supporting principles, each of which can be used only conjointly with the other two.[21] The First Analogy treats the persistence of substance through changes of state (transformations); the Second Analogy only treats rule-governed causal processes within any *one* substance; only the Third Analogy treats causal interaction *between* any two (or more) substances. Kant is express about this (B111; cf. *KdU* 5:181). Hence only in the Third Analogy does Kant respond directly to Hume's skepticism about our knowledge of causal powers because only there does he defend a transeunt account of causality, the view that something in a causally active substance goes out beyond that substance to influence or causally affect

[19] Thus transcendental proofs can justify conclusions much stronger than Rorty (1970, 236; 1971) recognizes. He claims that the most they can show are interrelations among thoughts.

[20] On Kant's Third Analogy, see Edwards (2000).

[21] Guyer (1987, 168, 212–4, 224–5, 228, 239, 246, 274–5); see below, §36.3.

something else, that is, to effect a change in a distinct substance – in brief, the thesis that all physical events have external causes.[22]

These issues are complex, both exegetically and philosophically. They are examined in chapters 4 and 5. Fortunately, Kant's main point about the joint use of the three principles of the Analogies may be summarized briefly. Determining that we witness either coexistence or succession requires discriminating the one from the other, and both determinations require that we identify objects that persist through both the real and the apparent changes involved in the sequence of appearances we witness. We cannot directly perceive or ascertain either time or (according to the Third Analogy) space, and the mere order in which we apprehend appearances does not determine an objective order of objects or events. Consequently, given our cognitive capabilities, we can determine which states of affairs precede, and which coexist with, which others only under the condition that we identify enduring substances that interact and thus produce changes of state in one another. Identifying enduring substances is necessary for us to determine the variety of spatial locations objects or events occupy, to determine changes of place, and to determine nonspatial changes (transformations) that objects undergo. To make any one such identification requires discriminating the present case from its possible alternatives, and this requires the joint use of all three principles defended in the Analogies. Failing to employ these principles successfully would leave us, as Kant puts it in the A Deduction, with "nothing but a blind play of representations, *i.e.*, less than a dream" (A112).

Kant's thesis that the principles of the three Analogies are an integrated set can be ratified by epistemic reflection, if we bear in mind certain results of Hume's perplexities in "Of Scepticism with regard to the Senses" and certain facts Kant notes about the requirements for distinguishing the subjective order of apprehension from the objective order of events. Kant himself speaks of "*Reflexion*" on these points (A189–90/B234–5); the surrounding discussion (A193–5/B239–40, A205–6/B251–2), along with the transcendental character of the issues discussed at this juncture, indicate that the relevant kind of reflection is transcendental.

Kant notes that apprehending the manifold features of a house is successive, though no one concedes that the features of the house are

[22] Actually, this holds only for the first *Critique*. Kant realized that his transcendental proof of transeunt causality is insufficient, and requires the metaphysical analysis undertaken in the *MAdN* (4:543); see below, §§37, 38. I retain the archaic spelling of "transeunt" because the *OED* indicates it is used precisely and exclusively in the sense here indicated.

themselves successive (A190/B236). Prominent among those who admit that the manifold features of perduring objects exist concurrently is Hume, who when a porter delivered him a letter, recognized that the porter climbed stairs that must still exist beyond the bounds of Hume's study, and that the door to his study must still exist behind his back, if he heard the porter's knock and the door's squeaky hinge as the porter enters (*T* 196–7). The implications of Hume's observations are manifold.[23]

These observations acknowledge that we ascribe both perduring existence and causal properties to ordinary physical objects. These ascriptions require concepts that cannot be defined in accord with Hume's own concept-empiricism, namely the concepts "cause" and "physical object." "Cause" cannot be defined in accord with concept-empiricism because, as Hume notes, we so often experience only a (supposed) effect (or a cause), without experiencing its cause (or effect). If Hume's official principles of psychological association were true, then each time we observed only an effect but not its supposed cause, or only a cause without its supposed effect, this would *weaken* our belief in that supposed causal relation. Such observations are not merely common, but prevalent. Thus at best we could have only very few, and very weak, beliefs about particular causal relations. This would undermine our basis for forming the particular causal principle, that each kind of event has a specific kind of cause. In turn, this would disable our forming any general concept of cause (according to which every event has a cause). That is why Kant confidently rejects concept-empiricism and psychological principles of association and maintains that the general concept of cause is *a priori*.[24]

Analogous points pertain to the concept of "physical object" (Hume's "body"). Hume recognized that this concept cannot be accounted for by his concept-empiricism and official principles of psychological association. For that reason alone he introduced three "propensities" to respond to certain patterns of impressions with certain beliefs about the continued and independent existence of physical objects (*T* 199–208). The problem is that these propensities at most explain the occasioning causes of our belief in "body," they neither define nor explain the origin of the very concept of physical object. Hume's propensities in fact smuggle into his account

[23] For discussion of this section of Hume's *Treatise*, see Wolff (1966), Stroud (1977a, 96–117), and especially Smith (1941, 443–94).

[24] B240–1; see Beck (1978b, 121–9). "Concept-empiricism" has been recognized recently to be a hopelessly restrictive view. However, Kant's Categories can still be defended as "pure *a priori* concepts" in the sense that these concepts must be used in order to identify any objects or events at all, on the basis of which alone one can learn or define any empirical concept.

a priori concepts, concepts that cannot be defined in accord with concept-empiricism.[25]

Third, Hume notes that ascribing continued existence and causal properties to physical objects outstrips our sensory observations, as Hume understands them (*T* 197, 198; cf. 217). Nevertheless, ascribing these characteristics to physical objects is necessary in order to preserve the coherence of our beliefs about the world (*T* 195–6, 198). Hume finds such kinds of "coherence" too weak to warrant trusting his senses (*T* 217). Hume overlooked what Kant saw: the coherence of such beliefs is only the tip of the issue. At stake is their very existence, their very possibility.[26] In addition to the points discussed above (§§2.3, 2.4), without the capacity to make causal judgments we could never "derive" (as Kant says) the subjective order of apprehension from the objective order of the world (A193/B238), nor could we distinguish between our subjective order of apprehension and any objective order of things and the events in which they participate (A193–5/B238–9) – including those events called "perceiving" them. We could not identify sensed objects at all, not even putatively; we could not identify the door on the basis of its squeak. In practice Hume clearly distinguished the subjective order in which his experiences occurred from the objective causal order of objects and events that he experienced, though his epistemology cannot account for this ability. Kant's transcendental proofs concern, not merely the possession of certain concepts, but their use in legitimate cognitive judgments of these sorts.[27]

[25] Stroud (1977a, 131) claims that Hume's appeal to propensities can be eliminated by replacing such talk with conditional regularities about the occurrence of certain "perceptions" in the mind, given certain series of other perceptions. However, at best this provides only occasioning causes of the use of the concept "body," but accounts neither for the *definition* nor the origin of that concept. Stroud's reconstruction also assumes that impressions can be bundled into persons, such that any one human being's dispositions to respond in the ways defined by his conditional necessities are ever triggered. In a word, this is why Hume's problem with personal identity is so grave. Gram (1983, 366) overlooks Hume's recognition of the shortcomings of general principles of psychological association in accounting either for our concepts of or our beliefs about causal relations among physical objects. Rorty (1970, 209) likewise overlooks the problems Hume found in his study. Hume awoke Kant from his dogmatic slumbers only because he rethought Hume's first *Enquiry* deeply enough to recognize its implications for any individual human's awareness of or judgments about causality or especially about physical objects, which Hume developed only in the *Treatise*. It behooves Kant's critics to study Hume with greater care.

[26] This central feature of Kant's transcendental proofs is omitted by Körner (1966, 1969), Rosenberg (1975b, 1979), and Stern (1999a); Cassam (1987, 355) and Stroud (1983, 429; 1994a, 248) note it.

[27] Strawson (1966), Rorty (1970, 222, 224; 1971), and Stroud (1977, 106, 110) focus too much on concept possession, and specify their "application" too vaguely, to capture the character and point of Kant's transcendental proofs. Similarly, Bennett's (1966, 202–14; 1979, 52–5) "Objectivity

A crucial point of Kant's analysis, which he recognized only when he wrote the preface to the *Metaphysical Foundations of Natural Science* (1786), is that we can make causal judgments only in the case of three-dimensional, spatial objects and processes; we cannot identify substances contained solely in the unidimensional form of inner sense, time. Hence we can only use the categories of cause and substance to judge, identify, and know spatial objects and processes.[28] Hence if we can identify a temporal order of events only by rightly using the concept of cause, and only in that way can we distinguish the subjective order of apprehension from the objective order of events, the objective order of events we identify must be a causal order of perceptible spatiotemporal substances.

This approaches one main point of Kant's Refutation of Idealism: if we cannot determine even basic temporal sequences of spatiotemporal events, then we cannot be aware of ourselves as being aware of some things before, along with, or after others; this is our awareness of our empirically determined existence (B275). Part of Kant's point can be brought out by reflecting epistemically on Wittgenstein's (1958, Pt. xii, p. 230) observation that if certain very general facts of nature were different, we would not and could not have the practices we do, including the arithmetical practices. Wittgenstein (1958, I §5) proposes that we imagine rulers made of something that expands enormously with slight changes in temperature, or ones made of stretchy rubber, or people who measure lumber by the area it covers. This line of thought can be extended by imagining objects that do not remain discrete when grouped together; they congeal like drops of water, though they do not conserve volume or mass in any regular or identifiable fashion. If the world consisted of objects like these, then there would not be human beings in it either, and any intelligent creatures capable of reckoning in that world would have a radically different way of reckoning than any mathematical system we could imagine.

In this way, like Kant, Wittgenstein draws attention to the logical contingency of many supposedly necessary truths, while recognizing that we cannot genuinely imagine or construct an alternative because our most basic concepts reflect very general facts about nature and about our abilities to reckon about nature. Kant's stronger transcendental point is that, with our concepts and cognitive abilities, we would fail to be self-conscious in any such radically counterfactual world. Such a world would defy our

Argument" focuses on the "application" of concepts in a way that reflects rather than rejects Hume's analysis in "Of Scepticism with regard to the senses" (*T* I.iv §2) because in Bennett's argument their "application" does not require their correct (truthful) application.

[28] See below, chapters 4 and 7.

capacities to make any empirical judgments, including any causal judgments, by which alone (on Kant's account) we can reconstruct, that is, identify, any temporal order of or in our experience. Integrating perceptions into a causal order is required in order to carry the time-order over into the series of our perceptions, on the basis of which alone we can assign any temporal sequence to perceptions, or recognize any temporal sequence whatsoever within experience. Thus Kant's point about the transcendental affinity of the sensory manifold bears directly on my present point about the integrity of the three Analogies.[29]

Identifying an object or an event requires being able to track it through some span of time during which we observe it, where "it" may exemplify any one of three possibilities: (1) It may be an object that is stable spatially and undergoing no transformation, though we may notice or perceive various of its properties sequentially (Kant's house; A190/B235); (2) It may be an object undergoing no transformation, though it moves in space (Kant's ship; A192/B237); or (3) It may be an object undergoing a transformation of one or more of its characteristics, regardless of whether it moves. (It may, of course, both move and transform.) Identifying any one of these scenarios as the instance at hand requires determining that the present case is neither of the other two. To identify an object that is stable both spatially and transformationally, we must be able to determine that it is not moving, and that it is not undergoing transformation. To determine that an object undergoes transformation, we must determine that what appears to be a transformation is not simply a local motion revealing a previously occluded aspect of the object; we must also determine that the object does not simply move away or vanish, only to be replaced by

[29] On Kant's "Refutation," see Harper (1984a), Förster (1985), Guyer (1987, 279–329), and Melnick (1989, 537–43). Baum's (1986) acute account of the requirements for time-determination and how these link the Aesthetic with the Deduction is invaluable for understanding Kant's "Refutation." Baum's analysis shows that Kant can be brief about the issue of time-determination in the "Refutation" or about "actuality" in the first edition Paralogisms (A377) because the entirety of the Aesthetic and Analytic address it (*pace* Stroud 1983, 418; 1984a, 145–6; Seebaß 1984, 244). I disagree diametrically with Rorty (1970, 237–8), who complains that Kant only made vague claims about "the unification of thought," and Stroud (1983, 424–5, cf. 159), who states: "I think it is in the nature and implications of the transcendental-empirical distinction itself, and not primarily in the details of the arguments used to reach the positive transcendental conclusions, that Kant's special contribution to the problems of knowledge is to be found." If anything here is vague, it is their grasp of Kant's transcendental methods and analysis. Gram (1971, 23–4; 1974, 307) disregards how Kant's "Refutation" is based on both the Transcendental Aesthetic and the Transcendental Deduction. Hence the model of transcendental arguments he criticizes (also see Gram 1973) is far too narrow to reflect Kant's views. Some of Gram's oversights are noted by Hintikka (1972). Gram (1983, 365–6) responds to his own earlier objections.

a different object that slips into the place it formerly occupied. Each of these determinations requires that we can identify and *re*identify something that persists through the changes we perceive, whether they are real (transformations) or merely apparent (local or relative motions with respect to the perceiver). Reidentification of particulars distinct from ourselves requires their spatiality (O'Neill 1976) and discriminating their causal interactions; hence reidentification is required even to identify particulars distinct from ourselves. Our capacity to discriminate among these three kinds of scenario requires discriminating what does occur in any instance from what might have been occurring on that occasion. In this regard, perceptual judgments require imagination as well as intellectual determination.[30]

Have I just made Kant's point entirely analytically, without relying on epistemic reflection? No. The question to be answered by epistemic reflection is whether Kant's analysis of the necessarily interdependent use of these three principles of causal judgment holds *of us*. To secure this point requires epistemic reflection on counterfactual cases such as the following. Could we identify a particular event using only one or two of Kant's three principles? That is, could we identify any particular event without discriminating its kind from the alternative scenarios mentioned above? What would it take for this to be possible? If it were possible, would it be possible for a human being? Further analysis of Kant's claim is possible (see chapter 4), though further analysis does not suffice to answer the crucial question of whether this analysis holds true *of us*. This question can only be addressed by epistemic reflection.

To ask how we make these discriminations in any particular case is to fall back into the foundationalist trap of trying to respond to skeptical challenges piecemeal, an approach Kant realized was bankrupt. Hence Kant argues instead that we must be able to do this, at least a significant part of the time, if we are to be self-conscious at all – more specifically, if we are to be aware of our existence "as determined in time" (B275), that is, if we are to be aware of ourselves as being aware of some events happening before, concurrently with, and after others. To determine whether this analysis holds true *of us*, we must reflect carefully and honestly on our own capacities to identify and discriminate such events. I submit that careful epistemic reflection on this point confirms Kant's thesis. Recent analyses of the possibility of a "pure sense-datum experience" have not matched

[30] See the items cited below, §36.

Hume's acuity in this regard. I shall turn to the wildly counterfactual cases of these conditions failing below (§36.3).

3 EPISTEMIC REFLECTION AND THE INTEGRITY OF THESE FOUR THOUGHT EXPERIMENTS

These four points are intimately related. Kant claims, on the basis of epistemic reflection, that our kind of sensibility is passive; it is merely a form of receptivity to stimulation by things distinct from ourselves (see below, §§8, 9). The analytic unity of apperception, expressed by the " I think, " requires for its possibility the synthetic unity of apperception through which a plurality of sensory states are integrated together and recognized as *one's own* (B131–9). The Transcendental affinity of the sensory manifold, that is, a humanly detectable degree of regularity and variety among the contents of what we sense, is a minimum condition for the possibility of any synthetic unity of apperception. Transcendental chaos blocks the analytic unity of apperception because it blocks the synthetic unity of apperception. Transcendental affinity is a minimal condition required for our understanding to function, to develop or use concepts at all.

However, our sensory experiences are inextricably temporal, and a major class of them – those of things distinct from ourselves – are inextricably spatial as well. To be aware of our existence as empirically determined, to be aware of some events occurring before, during, or after others – as Hume was, and as anyone who converses or who reads a sentence or who makes a statement must be – requires that we can distinguish the subjective order in which we happen to sense "things" from the objective order in which they exist or occur; we must be able to identify when these orders converge and diverge, just as Hume did in his study, and as we do throughout our walking lives. Since we cannot perceive space and time themselves, we can only make this distinction if we identify the causal order of events in space and time, which alone allows us to determine their spatiotemporal locations, and which *is* the objective order of events.

Conversely, in order to gain knowledge through sensory experience, we must be able to integrate various aspects of our experience self-consciously into a whole. This is true both in the local case of identifying various manifest features by which we discriminate any one object or event, and in the global case of identifying a (not necessarily complete) history of our own experience of the world. Note that this thesis does not require any doctrine of unsynthesized sensations; it is sufficiently supported by the fact

that recognizing any one object or event requires identifying several of its features over time; for example, Hume recognized a sound as a squeak of a *door* only by identifying several features of his door, not all of which he perceived concurrently.[31] Identifying particular objects or events in our environs requires that they present us with a sufficient minimum degree of regularity and variety among sensory contents such that our understanding can function, both by developing empirical concepts and using our *a priori* categories, both of which are necessary for us to identify commonsense objects or events, including at least some of their causal powers and relations. This is tantamount to a transcendental proof of mental content externalism. Finally, identifying objects or events requires that we are able successfully to discriminate spatially and transformationally stable objects from moving objects (whether local or translational motion) and from objects undergoing transformation (regardless of whether they also move). This requires that we can track objects and events in space through some periods of time, and across occasions of perceiving them; identification requires reidentification. Successful discriminations of these sorts require, of course, that there are perduring, perceptible, causally interactive physical objects. Otherwise we could not derive, as Kant says, the subjective order of our perceptions from any objective order of objects and events (A193/B238). In such a case, we would have at most a flood of sensation, amounting to even less than a dream.

Our cognitive dependence on our circumstances, on the world in which we live, runs deep – so deep we can all too easily overlook it. Kant did not, though he pointed out that these dependencies are vastly more complex than modern – or contemporary – empiricists assumed. This study explicates some of these key dependencies of human thought and

[31] Hence Rorty's (1979a, 97) dismissive remarks about "unsynthesized intuitions" do not moot this point, quite aside from his misnomer (A320/B377). See Kant's distinction between *Durchlaufen* and *Zusammennehmung* (A99), the holding together of the various features distinguished and identified within any one object or event (cf. Longuenesse 1998, 272–3). Harper (1984b) points out how important that misnomer is to assimilating Kant's distinctive theory of perception to the standard "new way of ideas," which of course facilitates the impression that he did not or cannot respond effectively to Cartesian or Humean skepticism. Also see George (1981) and below, §7. I agree with Patricia Kitcher (1990, 84–6) that Kant's point that we must synthesize sensations in order to perceive objects or events anticipates the contemporary "binding problem" in neurophysiology of perception. The problem is endemic to the modern "new way of ideas," as well as to sense-data theories, and lodges in any plausible account of human knowledge because we only perceive an object or event by sensing a variety of its features, and integrating these sensations into a percept of it. Kant's point is significant, even if contemporary neurophysiology ascribes more synthesis to the senses than Kant allowed (van Cleve 1999, 244).

self-consciousness on the spatiotemporal world in which we live. Chapter 2 identifies the metaphysical character of transcendental idealism, Kant's semantics of cognitive reference, and his grounds for maintaining that our passive form of sensibility requires stimulation by something other than ourselves. The externality of our sensory stimulation is reinforced by Kant's transcendental proof of mental content externalism, a corollary to his analysis of the transcendental affinity of the sensory manifold (chapter 3). This transcendental affinity provides a necessary (though not sufficient) condition for causal judgments. The fundamental flaw in Kant's defense of transcendental idealism, revealed by his transcendental proof of the affinity of the sensory manifold, shows that these spatial objects are real *sans phrase*; they cannot be qualified by Kant's "empirical realism," which is based on his transcendental idealism.

In chapter 4 I argue that the integrity of Kant's three Analogies of Experience entails that we can only make causal judgments about spatial objects in time. Hence the integrity of the Analogies of Experience reinforces the mental content externalism implied by transcendental affinity. Second, Kant's transcendental account of the *a priori* conditions of self-conscious experience in the first *Critique* is incomplete. His account requires the specifically metaphysical thesis that every spatiotemporal event has an external (transeunt) cause. This thesis Kant only formulates and defends in the *Metaphysical Foundations of Natural Science.*

In chapters 5 and 6 I argue that Kant's defense of transeunt causality in the *Foundations* is insufficient, both because his transcendental idealist grounds for it are inadequate and because they do not support the Newtonian laws of motion Kant sought to justify on their basis. Hence Kant's claim, that only transcendental idealism affords a sufficient justification of causal judgments, is false, because his transcendental idealism fails to provide that justification.

In chapter 7 I argue that the resources of Kant's transcendental analysis of the conditions of self-conscious human experience (*sans* transcendental idealism) and his semantics of cognitive reference suffice to justify transeunt causality. I further argue that those resources suffice to defend the theoretical possibility of free rational action, and to rebut the threat of global perceptual skepticism. In these regards, transcendental idealism is not, *pace* Kant, required for these Critical tasks. The negative result of my critique is that Kant's transcendental idealism is unsupported, false, nor can it fulfill some of the key aims Kant claims it alone can fulfill, nor is it required to solve three key problems Kant claims it alone can resolve. The positive results are an original, sound, genuinely transcendental proof of

realism; further insights into the conditions and justification of causal judgments about spatiotemporal objects and events; a unique and defensible solution to Kant's problem with psychological determinism and moral agency; and a penetrating, genuinely Kantian critique and refutation of global perceptual skepticism. This results in a genuinely transcendental proof of realism *sans phrase*.

CHAPTER 2

The metaphysics of Kant's transcendental idealism

4 INTRODUCTION

This study develops an internal critique of Kant's transcendental idealism. To understand the object and significance of this critique requires understanding Kant's unique kind of idealism. Debates about the nature of Kant's idealism are legion. Resolving them adequately requires a broader and more detailed perspective on Kant's philosophical project, and on the key metaphysical view Kant believed undergirded his project, namely his transcendental idealism. This is the main task of the present chapter.

The lead question of Kant's first *Critique*, indeed his whole Critical philosophy, is "How is Metaphysics as a Science Possible?" (*Prol.* §60, 4:365.7). Neo-Kantian and recent Anglophone interpretations of Kant's epistemology have concentrated on the Transcendental Analytic of the first *Critique*, and have taken Kant's positive and legitimate sense of metaphysics to concern the necessary conditions of our knowledge of mathematics, natural science, and commonsense knowledge of a spatiotemporal world of objects and events. However, in the Canon of Pure Reason Kant indicates directly that, although two of the leading subquestions of metaphysics, "What should I do?" and "What may I hope?," cannot be answered on theoretical grounds, they may be answered on practical grounds (A804–5/B832–3, 3:522.15–34). Those practical grounds are elaborated in the Dialectic of the first *Critique*, the latter two *Critiques*, and the *Religion*.

In either case, whether theoretical or practical, a definite and positive answer to a metaphysical question involves giving "objective reality" to a concept, including, for example, the concepts of freedom or immortality. "Objective reality" or "objective validity" involve possible reference to a specific object, where "possible reference" involves more than merely describing a logical possibility. It requires establishing that there is at least one object to which the concept in question can be correctly referred. Kant states this clearly in the preface to the second edition of the first *Critique*:

To *know* an object I must be able to prove its possibility, either from its actuality as attested by experience, or *a priori* by means of reason. But I can *think* whatever I please, provided only that I do not contradict myself, that is, provided my concept is a possible thought. This suffices for the possibility of the concept, even though I may not be able to answer for there being, in the sum of all possibilities, an object corresponding to it [*sic*]. But something more is required before I can ascribe to such a concept objective validity, that is, real possibility; the former possibility is merely logical. This something more need not, however, be sought in the theoretical sources of knowledge; it may lie in those that are practical.

(B*xxvi* note, 3:17.29–38; tr. Smith.)

A "scientific" Kantian metaphysics must be systematic; in the absence of direct empirical data, systematicity plays a decisive role in justifying a metaphysics.[1] This requires Kant to integrate his practical and theoretical metaphysics. Kant's metaphysics is based on his transcendental idealist distinction between appearances and their supersensible basis. These two points converge most graphically in a passage near the end of the published introduction to the third *Critique*:

Through the possibility of its *a priori* laws of nature the understanding gives a proof that nature can only be known to us as appearance. Thereby it also indicates a supersensible substrate of nature, though it leaves this completely *undetermined*. Through its *a priori* principle for judging nature according to possible particular natural laws the power of judgment gives (*verschafft*) its supersensible substrate (in as well as out of us) *determinability through the intellectual power*. But through its practical *a priori* law reason gives that same substrate *determination*. And thus the power of judgment makes the transition from the realm of the concept of nature to the realm of the concept of freedom possible. (*KdU* 5:196.12–22)

This is a very challenging passage, not requiring full explication here. It suffices to stress the importance of systematicity and the distinction between sensible appearances and their supersensible basis within Kant's Critical philosophy. Disregarding the systematic character of Kant's philosophy has led to some serious misunderstandings of the role of transcendental idealism in answering metaphysical questions, and to serious misunderstandings of the nature of that idealism itself.[2] Like Strawson (1966), nineteenth-century neo-Kantians recognized the metaphysical aspects of Kant's transcendental idealism, and rejected them in favor of

[1] Cf. B*xxiii*, A710–11/B738–9, A832–3/B860–1; 3:15.15–16.2, 467.17–28, 538.17–539.11.

[2] Elsewhere (Westphal 2001) I argue that Allison's interpretation of Kant's idealism is equivocal, and that the "anodyne" aspect of his interpretation is textually unfounded. How the present interpretation compares with others in the literature is noted in Westphal (1997b), which also quotes passages from Kant cited below.

his empirical realism. The dominant trend in twentieth-century Kant scholarship (*e.g.*, Prauss, Bird, Allison, and Buchdahl) has been instead to argue that Kant's transcendental idealism is not ultimately metaphysical. Both interpretive trends were motivated by the common belief that the metaphysics sometimes attributed to Kant's transcendental idealism is incoherent, in part because no good Kantian sense can be given to the idea of noumena causally affecting our sensibility. In opposition to these dominant trends, I contend that "noumenal causality" is coherent, and is required by Kant's views of sensory affection and of moral agency. Properly understanding the metaphysical aspects of Kant's transcendental idealism is important throughout the remainder for understanding the implications of Kant's failure to justify his transcendental idealism, and of the failure of transcendental idealism to justify Kant's key principle of causal judgment.

5 NOUMENAL CAUSAL AFFECTION OF HUMAN SENSIBILITY

Debate about Kant's views on things in themselves, empirical intuitions, and the affection of our sensibility has been heated. The idea that noumena or things in themselves causally affect our sensibility, and thus provide us with sensations, has been widely criticized on two basic grounds. First, it seems unintelligible because it requires making a distinction between appearance and reality according to which things in principle cannot appear as they really are. Second, it seems non-Kantian because it requires applying the concept of causality transphenomenally, which allegedly contradicts Kant's Schematism. How, then, are we to understand Kant's doctrine of transcendental affection?

Vaihinger posed this trilemma concerning Kant's view of sensory affection:

(1) If the things that affect our sensibility are things in themselves, then Kant must contradict the fundamental doctrine of transcendental idealism, according to which the categories of substance and cause can only be applied within the bounds of sensible experience; they cannot be applied transphenomenally to things in themselves as causes of sensory affection.
(2) If the things that affect our sensibility are objects in space (and time), then Kant's view faces the contradiction that the very same appearances which result from sensory affection should also produce sensory affection.
(3) If things in themselves affect the transcendental ego, in parallel to spatiotemporal objects affecting the empirical ego (double affection),

> then Kant's view faces yet another contradiction: what is a representation for the transcendental ego serves as a thing in itself for the empirical ego, and produces for the empirical ego a further empirical representation of one and the same object.[3]

Previously, Vaihinger had favored the third option.[4] "Double affection" is a kind of parallelism; Vaihinger grants here that the parallelism cannot be maintained, since conforming the doctrine of "double affection" to Kant's texts requires phenomenal effects of noumena. However, Vaihinger overlooked the fact that "double affection" also involves a transphenomenal use of the categories of causality and substance, in this case, regarding the supposed relation between things in themselves and the "noumenal ego." If the first problem could be solved, as "double affection" also requires, then the parallelism of "double affection" would be otiose. The alleged doctrine of double affection has been widely, and rightly, rejected by recent interpreters (Gram 1975a).

As Vaihinger noted (1892, 50f.), the second option was widely favored by neo-Kantians, including Lange, Cohen, and Natorp. A similar position was taken by Schrader (1967). Such interpretations are *neo*-Kantian, since they require paring off a portion of what appears to be, strictly and literally, part of Kant's *Critique of Pure Reason*, namely, a large number of passages in which Kant states that things in themselves, noumena, or "the transcendental object," causally affect our sensibility. It would be much preferable on scholarly grounds (at least) to avoid this kind of surgical editing of Kant's text.

Keeping Kant's text intact appears to leave only the first option. That option was criticized immediately in Kant's own day, most famously by Jacobi, but also by G. E. Schulze (Anesidemus), Beck, and Fichte. Jacobi charged that without the presupposition that things in themselves causally affect our sensibility it is impossible to enter Kant's system, and with that presupposition it is impossible to remain within it, because within Kant's system it is (supposedly) impossible to give any sense to the notion of a nonsensible cause of sensible appearances.[5] The idea that Kantian categories can only be "applied" to, and so only can be used with regard to, sensed particulars remains today the main stumbling block to understanding Kant's views on the sensory affection of things in themselves (cf. Vaihinger 1892, 2:35–48). In Anglophone Kant interpretation, Bird (1962,

[3] Paraphrasing Vaihinger (1892, 2:53).
[4] Vaihinger (1892, 2:52). "Double Affection" was advocated by Adickes (1929), especially 46–59.
[5] Jacobi (1781, 222–4). Vaihinger (1892, 2:38) notes that Jacobi's objection hits the nerve of the issue.

1982) and Strawson (1966, 38–42, 250–6) gave most forceful expression to Jacobi's objection to the idea that sensory affections are caused by nonspatiotemporal things in themselves. Strawson's interpretation is professedly a philosophical reconstruction of Kant's doctrines, and it stands squarely in the neo-Kantian tradition.

Recently, Prauss has argued that this whole debate rests on a failure to understand correctly Kant's view of transcendental reflection, and consequently, to understand Kant's metaphysical and epistemological views about the conditions that make experience possible (*Ding*, especially. §§7, 10). Prauss agrees with Jacobi that no sense can be made of noumenal causality (*Ding* 196–7). According to Prauss, causal affection only holds between spatiotemporal empirical objects and our sensory organs (*Ding* 204). This is a necessary material condition of human experience (*Ding* 73). In transcendental reflection on the necessary conditions for the possibility of our experience, these actual causes of sensory affection must be considered "in themselves," in abstraction from human sensibility; accordingly they are described collectively as "the thing in itself" (*Ding* 192, 197, 202). On Prauss's view, Kant's distinction between the "two aspects" of things, as appearances and as things in themselves, involves only (what I will call) a "dual description" of things, where things are described differently depending solely on whether we describe them as occurring in actual experience or whether in transcendental reflection we only describe them quite generally as a condition of knowledge (*Ding* 197). Prauss thus seeks to retain the insights of the neo-Kantian view of transcendental affection, and to ascribe that view to Kant himself. To do this, Prauss distinguishes pointedly between the text of Kant's *Critique of Pure Reason* and the substance of Kant's Critical system (*Ding* 68–9, 195–6). On this basis, he disregards passages in which Kant describes transcendental affection in causal terms (*Ding* 198–200). Prauss alleges that those passages show Kant's own lack of full clarity about his own view of transcendental reflection (*Ding* 192, 199–201, 203). This is a bold interpretation, but due to its extensive surgical reconstruction of Kant's text, Prauss's view is only warranted if sense cannot be made of noumenal causality. I shall argue that Prauss is mistaken about this, and thus that his "dual description" view of transcendental affection is mistaken.

Buchdahl adroitly noted that Jacobi's objection, that transphenomenal causality is unintelligible because Kant's Critical philosophy only justifies causal judgments within the phenomenal realm, is so obvious that Kant would have been aware of it and therefore must have had a different view of transcendental affection (*KDR* 125, 137–8). Certainly this is correct. I grant

further that many troubling passages can be made to fit Prauss's or Buchdahl's interpretations. However, some cannot.

I contend that Kant's view is not subject to Jacobi's (*et al.*) objection, because the objection misunderstands Kant's views on three closely related topics: transcendental reflection, the transcendental thoughts involved in recognizing the causal affection of our sensibility by nonspatiotemporal things in themselves, and the kinds of causal judgments licensed and proscribed by Kant's epistemology. Clarifying these points shows how Kant can speak legitimately of transcendental affection in causal terms. Hence the supposedly problematic passages about noumenal causality and transcendental affection of our sensibility can and must be retained in a proper understanding of Kant's transcendental idealism.

Indeed, these passages are required by Kant's official theory of free action.[6] Some of these passages ascribe a causal effect to the nonsensible substratum of an appearance. Others ascribe a causal effect to practical reason. The difficult questions concern how to understand these passages. Do they merely express how we are constrained, for whatever Critical reasons, to think of these putative causal agencies? Or do they express how we can and must think (but not empirically know) them to be on transcendental or moral grounds? I argue that Kant intends these passages in this second, much stronger sense, namely, that there is noumenal causality, including the special case of rational agency, and that this stronger interpretation is legitimate within Kant's Critical framework. Consider now some controversial passages.

6 SOME CHALLENGING PASSAGES

Kant makes repeated claims about a noumenal or supersensible cause or basis of phenomena or appearances. These include:

> The unknown substratum of matter affects our senses, thus bringing forth the intuition of something extended. (A359, 4:226.16–24; cf. A360)

> Whatever grounds outer appearances affects our sense in such a way as to acquire (*zukommen*) representations of space, matter, form, *etc.* (A358, 4:225.34–6;A358–9, 4:226.4–11)

> The cause of spatiotemporal representations is nonsensible. (A494/B522, 3:340.27–34)

[6] On the contrast between Kant's "official" account of free action and a distinct, "unofficial" account, see below, §61.

Now because no one can give grounds to suppose that anything is known about the transcendental cause (*Ursache*) of our representations of outer sense . . .
(A390–1, 4:244.20–2; cf. A288–9/B344–5, 3:231.3–19)

. . . appearances, the non-sensible ground of which we would of course love to explore [though we cannot]. (A278/B334, 4:179.27–9)

Things in themselves are the causal ground of sensory affection.
(*Prol.* §13 Anm. II, 4:288.34–289.14; §32 4:314.33–315.6)[7]

Human reason shows true causality, because through it ideas become efficient causes. (A317/B374; 4:202.14–16; A328/B385, 4:208.15–20)

Freedom is the unconditioned causality of a cause within appearances.
(A419/B447, 3:289.7–9)

The causality of an agent can be considered in two regards, as intelligible causality of the agent in itself in its actions, and as sensible causality in the effects of those actions as appearances in the sensible world. (A538–9/B566–7, 3:366.8–27)

These passages appear to commit Kant to the existence of transphenomenal causality and to the legitimacy of our talking and thinking about it, in connection with transcendental accounts of both sensory experience and moral agency. This raises two crucial questions. Is it legitimate for Kant to speak or to think of transphenomenal causality? If so, what is the existential import of such considerations? In the next two sections I assess the main reasons for thinking that Kant can give no legitimate positive answer to these questions.[8]

7 VERIFICATIONIST INTERPRETATIONS OF KANT AND THE TRANSCENDENTAL SIGNIFICANCE OF CONCEPTS

Strawson's (1966) interpretation of Kant marks the confluence of neo-Kantianism and positivist verificationism. His interpretation would put short shrift to both of the above questions. According to Strawson, Kant's principle of significance is that "there can be no legitimate, or even meaningful, employment of ideas or concepts which does not relate them to empirical or experiential conditions of their application."[9] However,

[7] The accuracy and reliability of the *Prolegomena* can be contested on points of important detail, but passages cited below show that these passages accurately summarize Kant's view in the first *Critique*.

[8] Buchdahl (1992) objects to noumenal causality. I respond in Westphal (1998c).

[9] Strawson (1966, 16). He cites two statements to support this claim, and asserts that "these sentences [from B195 and B724] are typical of dozens in the *Critique*" (*ibid.*, n 1). The second passage is at 3:457.22–6; the first page number is incorrect, though Kant says something to the same effect at the page break at B194–5 (3:144.15–20).

Strawson does not consider the details of Kant's theory of concepts, categories, their schematization, or especially, Kant's alternative practical strategy for giving concepts "objective reality" in the second *Critique* (below, §12). Strawson thus overlooked most of Kant's semantics.

A more detailed treatment of Kant's theory of meaning, to much the same effect, is given by Sandberg (1989). Sandberg cites Kant's remarks that the categories are "mere rules of synthesis" and are "empty titles of concepts without any content" and thus lack both sense and meaning (*Sinn und Bedeutung*) when abstracted from their conditions of application to experience.[10] He (1989, 26) infers from these remarks that "the unschematized categories have no content whatsoever apart from the conditions of our intuition," and thus cannot serve to think about anything at all.

Unfortunately, Sandberg overstates what is implied by these remarks. Kant does closely associate significance (*Bedeutung*) and also sense (*Sinn*) with a concept's "connection" (*Beziehung*) or reference to objects, where this referentiality is secured via our forms of sensory intuition (B300). However, Kant's account of "objective validity" requires that, for any concept to be fully meaningful, it must be referable to possible or actual objects of human experience, where such "referability" is secured spatiotemporally, via our forms of intuition (Hanna 2001, 83–95, 136, 137). This component concerns referentiality, *not* "empirical content" as it is understood by various empiricist theories of meaning, to which Kant's views have been erroneously assimilated. Referentiality (via sensibility) is one of two main components of Kant's account of conceptual meaning or significance. The other component lies in "functions of unity" embedded in our basic Categories, which devolve from their origins in our basic, innate forms of judgment. In the "Metaphysical Deduction" of the categories, Kant argues that our basic kinds of logical judgment reflect the basic categories of cognitive judgment required for empirical knowledge. If the categories were utterly devoid of content when abstracted from sensibility, there would be no difference between any two (alleged) categorial concepts, and thus no reason that one supposed category became schematized as causality, and another as modality, or indeed that any three of them could become schematized as three distinct modalities, and so on. If the categories were utterly devoid of content when divorced from sensibility, they could have no "transcendental content" for the understanding to

[10] Sandberg (1989, 26) cites A679/B707 and A696/B724, where Kant speaks of the categories as "mere titles to concepts" (3:448.1–2, 457.22–7). Kant speaks of the categories as mere rules of synthesis at A720/B748, 3:473.21–5.

introduce into any synthetically unified intuition, whereas Kant insists that they do have such content, and that this content derives from the analytical unity of their judgmental forms (A79/B105). This is to say, in order to *be* "rules of synthesis" (note Kant's plural) at all, the categories must retain content from the judgmental functions of unity whence they come,[11] and they must acquire further content by being brought to bear on the *a priori* manifold of sensibility, set out in the transcendental aesthetic.[12] This twofold account of conceptual meaning is reflected in the Schematism of the Categories, where "schemata" are specified to link the pure judgmental-*cum*–conceptual significance of the categories with specific configurations of sensory manifolds. Only because categories antecedently have a logical significance can they be schematized at all. Whatever Kant says of the erstwhile "emptiness" of the categories must be understood in the context of Kant's two-component account of conceptual significance (*Bedeutung*).

Kant's twofold account of conceptual significance is based squarely on his Table of Judgments (Wolff 1995, 1998, 2000) and on his theory of sensation, which is a version of "sensationism" (George 1981, especially 230, 246). Generically, sensationism holds that sensations are nonintentional mental states that do not, of themselves, present objects to the mind. Although such sensations provide the sensory basis of empirical knowledge, they themselves are nonintentional and nonreferential. On this view, the "objects" we experience and to which we refer must be (re)constructed, where some properties of those objects derive from constituent sensations and others derive from synthetic mental activities.

Kant's sensationism is more sophisticated than this generic view. On Kant's considered view, outer sensations are not themselves objects of self-conscious awareness (except under highly unusual circumstances), although they are elementary events or processes of sensing. In Kant's usage, sensation (*Empfindung*, and its cognates) indicates that an object or a reality (*Real*, *Wirklichkeit*) in time or space corresponds to any sensation or sensory episode.[13] Kant's view can be put adverbially: we sense (*e.g.*) greenly; we do not sense green, although we sense green features of objects, or less commonly of colored light; we sense "the real" that corresponds to sensation. Sensations, or acts of sensation, are momentary; only series of sensations are temporally extended (B209). Any object or event can be an object of self-conscious experience only insofar as we integrate a plurality of

[11] A79, 147/B104–5, 186; 3:92.16–19, 139.11–37.
[12] A76–7/B102, 3:91.2–13; cf. note 25 below.
[13] B34, 74, 182, 207, 209, 609, 751; A20, 166, 373–4.

sensations when perceiving that object, and only insofar as we judgmentally identify and integrate several of its sensed features. Only this integration and judgmental articulation enables us either to experience or to know any particular object or event, by enabling us to exploit information about it provided through sensation. Only the categories, which derive their functions of judgmental unity from our twelve basic forms of judgment, can guide our judgmental integration of sensations in our experience or knowledge of any objects or events.

In this regard, Kant's considered view is that sensations, or rather acts of sensing, have a basic kind of intensionality (roughly, they carry information about a particular sensed object), though their basic intensionality is insufficient for them to be intentional, in the sense of being either objects or vehicles of self-conscious awareness. Rather, sensations must be integrated into what Kant calls an intuition in order to play a role in perceiving any object or event, where typically a plurality of intuitions are integrated in perceiving any spatiotemporal particular.[14]

Both Kant's sensationism and his concern with the legitimate use of *a priori* concepts in determinate cognitive judgments entail that issues of semantic and cognitive reference are central to the *Critique of Pure Reason*, whence the character and the centrality of the question Kant formulated in his famous letter to Herz.[15] In the *Critique* he poses it this way:

> How does it come about that we posit an object for these representations, or attach to them, beyond their subjective reality as modifications, some kind of an objective reality? (A197/B242, 3:172.21–3)

Here once again is the key phrase "objective reality," which concerns the possible reference of concepts to objects. On Kant's view, the synthesis that brings about the referential and representational role of sensations must be a function of the kinds of judgments we as human beings can make, simply because there is no other possible source of such synthesis.[16] If there is a

[14] George (1981) reminds us that in contemporaneous philosophical usage, Kant's related term *Erkenntnis* (in the distributed singular) designates cognitive reference to a particular object or event. Cf. Kant's taxonomy of representations (A319–20/B376–7).

[15] The question is: "On what ground rests the relation of that in us which is called representation to the object?" (Ak 10:130.6–8; tr. Beck 1988, 81). Kant's central concern with semantics was broadly noted by Smith (1923, xli), though few studies have examined this concern in detail; Butts (1969), Simon (1972), Hogrebe (1974), Schönrich (1981), Zöller (1984), Melnick (1989), Hanna (2001), Greenberg (2001). (Coffa's (1991) view of Kant's semantics is very limited.) I restrict discussion of Kant's semantics to features directly pertaining to the issues of the present study.

[16] Regarding "synthesis," see Baum (1986), Guyer (1989), Kitcher (1990), Howell (1992), and Brook (1994).

Table of basic Logical Judgments, it would be entirely plausible to suppose, as Kant does, that the concepts used in those judgments must fill out a Table of basic Categories of Thought. Kant insists that there are different kinds of synthesis, according to the different kinds of judgments we can make, where these different judgments involve different categorial concepts. Kant's schematism and its relation to the pure categories, and their relation in turn to the forms of logical judgment, is intricate. (Paton 1936 devotes ten chapters to these topics.) Fortunately, the basic points of doctrine stressed here are uncontroversial.[17]

Important here is Kant's basic view that the categories, as basic concepts involved in judgments, each has a logical significance, deriving from Kant's Table of Judgments, which becomes a richer transcendental significance, cataloged in the Table of Categories, when our basic logical forms of judgment are interpreted as basic cognitive forms of judgment by bringing them to bear on our two *a priori* forms of sensibility, in view of their roles in synthesizing sensations in possible cognitive judgments. Both of these elements of significance, which Kant calls the "transcendental significance" of the categories (§8), are at least analytically distinct from their empirical significance, which they have only as used in determinate cognitive empirical judgments about particular objects or events. Kant's denial that categories have "significance" when used transphenomenally must be understood as the denial that they have full, cognitively determinate, empirical significance by which they can refer to given particular objects.[18]

[17] See, *e.g.*, Allison *KTI* 115–22, 173–94; Paton (1936, 1:245–8, 260–2, 304–5, 2:21–4, 31–2, 42–65, 68–9); Hanna (2002, 76–83); Wolff (1995, 58–73); Greenberg (2001, 137–57); and Young (1992, 112–13), who comments: "[Kant's] view ... is that concepts have content, not merely because they contain various predicates, but also because those predicates are tied to what can be given in sensible intuition. The predicates themselves exhibit a certain structure insofar as they hold conjointly of the things conceived, and insofar as they are related to one another coordinately and subordinately. This structure constitutes the logical form of the concept. Apart from their relations to sensible intuition, however, and to the individuals we can represent through it, the predicates constitute *merely* the logical form of a concept. Should it be impossible to link them to sensible intuition, that form would be empty or without content. As Kant also puts it, the concept would 'be without sense, that is, without meaning' (A240/B299)." Young's statement makes plain both that there are two components to the meaning or the significance of categories, and that Kant is willing to speak, unqualifiedly though imprecisely, of concepts being "without sense ... [or] meaning" when not tied to sensory intuitions.

[18] A32, 155–6/B37–8, 194–5, 3:52.12–14, 144.15–20; B150–1, 291, 3:119.4–24, 200.6–15; A244–6, 4:160.21–161.17. For further discussion, see Hanna (2001, 83–95, 136–7).

8 TRANSCENDENTAL REFLECTION AND THE TRANSCENDENTAL SIGNIFICANCE OF CONCEPTS

Three points are needed in order to understand Kant's position. First, Kant does grant that pure concepts have a logical significance independent of their schematization. Second, this logical significance is insufficient for determinate cognitive judgments about particular objects. (In brief, this is why Kant thinks that traditional rationalist metaphysics is impossible.) Third, the logical significance of pure categories can be enriched into a transcendental significance by relating pure concepts to the sensible manifold provided by our forms of intuition. (This is the task of Kant's "Schematism.") Kant's expressions may seem to obscure these three points somewhat because, on the one hand, he condemns rationalist metaphysical claims in terms of an illegitimate "transcendental use" of pure concepts, while on the other hand, his own *Critique* requires what he calls "transcendental reflection" on the *a priori* conditions of knowledge. The illegitimate transcendental use of pure concepts Kant proscribes is the rationalist attempt to interpret pure concepts as determinations of being *per se*; Kant thus proscribes the pre-Kantian ontological sense of the term "transcendental."

Kant's own transcendental reflection is discursive and must exploit the "transcendental significance" of pure concepts. Such reflection is "discursive" in the sense that it uses concepts and affirms conclusions about, for example, our cognitive capacities. These conclusions are reached on the basis of transcendental reflection, and do not involve subsuming sensory intuitions of particulars under concepts. So far as such subsumption is understood as Kant's "discursivity thesis," these transcendental judgments are not discursive. Kant's view is consistent; though we must avoid a possible equivocation on the term "discursive." The use of pure concepts in transcendental reflection on the *a priori* conditions of knowledge might be called a "transcendental use" of those concepts. However, Kant does not call it that, and it is important to recognize that when he repudiates the "transcendental use" of pure concepts, he only rejects rationalistic metaphysics and not his own use of those concepts in transcendental reflection. This kind of reflection, like epistemic reflection, can only be based on the transcendental significance of pure concepts.

Kant repeatedly rejects the transcendental use of concepts for traditional metaphysical purposes. However, in rejecting that use, he acknowledges, sometimes more explicitly than others, that pure concepts do have a

transcendental significance. Typical of such passages is the following one from "Phenomena and Noumena":

> Thought is the act of relating given intuition to an object. If the kind of this intuition is not at all given, then the object is merely transcendental, and the concept of the understanding has none other than transcendental use, namely, of the unity of the thought of a manifold in general. Now through a pure category, from which is abstracted all condition of sensible intuition (which is the only [kind] possible for us), no object is determined; instead, this only expresses the thought of an object in general according to diverse modes [*sic*]. Now to the use of a concept there also belongs a function of judgment [*sic*] by which an object is subsumed under it; this involves the at least formal condition under which something can be given in intuition. If this condition of judgment (schema) is lacking, then there is no subsumption, since nothing would be given which could be subsumed under the concept. The merely transcendental use of the categories is thus in fact absolutely no use and has no determinate object, and none which is determinable with regard to form. It follows from this, that the pure category also doesn't suffice for any synthetic principle *a priori*, and that the principles of pure understanding are only of empirical use, but never of transcendental use; but beyond the field of possible experience there can be no synthetic principles *a priori*. (A247–8/B304–5, 3:207.23–208.15)

This passage explicitly proscribes both empirical and synthetic *a priori* knowledge of particular objects beyond the bounds of sensory experience. This is to say, the "transcendental use" of categories Kant proscribes here is their use in rationalist metaphysics. While the passage states that a "merely transcendental" use of categories is "in fact absolutely no use," the full sentence indicates that this lack of use is lack of use for determinate judgments about particular objects; that is, the transcendental use affords neither empirical nor synthetic *a priori* knowledge of particular objects. This is clear from the specific context, though Kant himself added in his *Nachträge* the further clarification that this use is no real use "to know something."[19] Similarly, he clarified the meaning of his statement that no object is determined in the absence of the condition of sensible intuition by adding "thus nothing is known" (Ak 33:48.14). The transcendental use of pure categories affords no knowledge, either empirical or synthetic *a priori*, of particular objects. This is the "transcendental use" of pure concepts Kant repeatedly criticizes and repudiates in his *Critique of Pure Reason*, for this is the nerve of his critique of rationalist metaphysical pretensions to knowledge.

However, near the beginning of the passage just quoted Kant indicates that there is a transcendental use to pure categories that rests on their

[19] Ak 23:48.16–17. Smith (1929, 265 n 3) cites Erdmann (1881), no. *CXXVII*.

logical content as functions of unity. This "logical content" partially constitutes what Kant elsewhere calls the "transcendental significance" (*Bedeutung*) of pure concepts.[20] Proscribing the use of pure concepts, with their transcendental significance, for rationalist metaphysics is altogether compatible with a different use of pure categories in transcendental reflection on the passivity of our sensible forms of intuition, in order to recognize, *e.g.*, that in general, something distinct from us ("outside us in the transcendental sense"; A373, 4:234.21–3) must stimulate our sensibility if we are to have any intuitions of particulars. This, in brief, is Kant's doctrine of transcendental affection, which is articulated by Kant's transcendental reflection on human sensibility.

Though Kant describes transcendental reflection only very briefly in the first *Critique*, it is nevertheless fundamental to his whole Critical project, for the whole Critical system reflects transcendentally on our cognitive capacities. In the appendix to the Amphiboly of the Concepts of Reflection, Kant describes transcendental reflection as follows:

> *Reflection* (*reflexio*) does not concern objects themselves in order to derive concepts from them. Instead it is the state of mind in which we first set ourselves to discover the subjective conditions under which we arrive at concepts. It is the consciousness of the relation of given representations to our various sources of knowledge, through which alone their mutual relations can be correctly determined. The first question prior to any further treatment of our representations is this: in which cognitive power do they belong together? Is it the understanding, or is it the senses, by which they are connected or compared? . . . all judgments, indeed all comparisons require a *reflection*, that is, a differentiation of the cognitive power to which given concepts belong. The act by which I bring together the comparison of representations in general with the cognitive power to which they belong, and by which I distinguish whether they are to be compared as belonging to pure understanding or to sensible intuition, I call *transcendental reflection*.
>
> (A260–1/B316–17, 3:215.16–23)

This passage gives Kant's general characterization of transcendental reflection. It suffices to note that transcendental reflection involves conceptual thought. (Kant would not un-Critically adopt any form of intuitionism for his key philosophical method, after having rejected intuitive metaphysical and empirical knowledge so categorically in other domains.) To be sure, Kant does not say directly that we learn that our sensibility is passive, and so on, by transcendental reflection, but he has no alternative doctrine about

[20] A147/B186, A248/B305, A254/B309; 3:139.25–9, 208.16–29, 210.35–211.14; see the references given in note 18 above, B148–9, 3:118.7–16, and A181/B224, 3:161.27–31.

this matter, and he should not have an alternative: almost the whole *Critique* is an exercise in transcendental reflection, and the transcendental aesthetic plainly exhibits the structure of what in this passage he explicitly calls transcendental reflection.

If transcendental reflection is discursive, then there must be concepts that are sufficiently specific and significant for Kant to engage in transcendental reflection. This is the case, given Kant's view of the logical significance of pure categories and the transcendental significance they obtain when they are related to the *a priori* manifold provided by our two forms of intuitions, space and time. This accords exactly with the elements of Kant's complex theory of meaning (above, §7). As noted, Kant directly states that the categories retain a logical significance, even when divorced from sensibility, and this logical significance suffices to give the categories a transcendental significance (*Bedeutung*).[21]

Here are three further indications of the presence and importance of the transcendental significance of pure concepts. First, only because pure concepts have transcendental significance can we think (but not theoretically know) about noumena or things in themselves. Once in his text, and twice in his marginal comments in his own copy of the first *Critique*, Kant insists that noumena can only be thought but not known, and Kant emended his copy of the first *Critique* at seven places to stress just this point.[22] If the categories were utterly devoid of any content when divorced from sensibility, nonspatiotemporal noumena could not even be thought. (This is, in effect, Sandberg's thesis, but it is contradicted by Kant's direct statements to the contrary.) Second, this distinction is crucial to his entire practical philosophy and philosophical theology (below, §12). Third, there must be some minimal transcendental sense to the categories if Kant's advance over traditional ontology is even to be formulated. Traditional treatises on ontology began

[21] See the references given above, note 20. Note that Kant's use of the phrase "logical significance" requires understanding the term "logical," not narrowly in connection, *e.g.*, with Kant's Table of Judgments, but broadly, in accord with a broad swath of modern logics which used logical theory narrowly so-called to explicate human knowledge. This broader sense of "logical significance" might now be called "epistemological significance," though in Kant's view this would be the epistemological (or cognitive) significance of basic categories of thought reflected, *e.g.*, in his Table of Categories.

[22] A155–6/B195, 3:144.17–20; the two marginal comments at issue were written at the beginning of Kant's chapter on the distinction of objects into phenomena and noumena (A235/B294–5). They are *Reflexionen* nos. CIV and CVI from the *Selbständige Reflexionen im Handexemplar der KdrV (A)* (Ak 23:34.14–17, 34.27). Kant's emendations are reproduced in Ak 23:46.18 (re: A147, 4:104.30), 48.14 (re: A247, 4:162.5–6), 48.16–17 (re: A247, 4:162.13–14), 48.25 (re: A251, 4:164.6), 49.17 (re: A259, 4:168.34–5), and 49.23 (re: A286, 4:183.36). Note that Kant's claim, that noumena can only be thought but not known, is made within and holds of the theoretical perspective.

with the distinction between the possible and the impossible. Kant held that this division presupposes a higher genus to be divided, which he formulates as "an object in general," a problematic concept ranging over the species of being and nonbeing.[23] Precisely because this concept is so general, its meaning cannot be empirical or otherwise bound to the intuitive conditions of theoretical reference to particulars; its significance must be transcendental.

The transcendental significance of the categories is crucial to Kant's Critical philosophy as a whole, for only on that basis can Kant distinguish in various contexts between what can be simply an object of thought and what can be known empirically.[24] Neither Strawson nor Sandberg consider the implications of their interpretations for the remainder of the Critical philosophy, nor do they consider how Kant could possibly formulate or know the radical empiricist-*cum*-verificationist claims about meaning that they ascribe to Kant, which would rob Kant of his expressly transcendental logic.[25] This point further reinforces the distinction Kant makes between the transcendental significance of categories and their (full) significance in synthetic *a priori* and in empirical judgments. There must be a suitable range of epistemic concepts that have sense and can be used independently of particular sensible intuitions, or else Kant could not even formulate his transcendental analysis of knowledge, much less demonstrate it to be true. Were there no such concepts, Kant could not purport to offer transcendental knowledge of the *a priori* aspects of our knowledge of objects;[26] there would only be general logic and empirical psychology, but no specifically transcendental logic. Transcendental logic is investigated by transcendental reflection, and transcendental reflection relies (in part) on the transcendental significance of unschematized categories. Consequently, on Kant's theory of meaning, the categories are available, even without their full schemata, for transcendental reflection on an object in general, whether in a merely logical context or in a transcendental context (concerning the *a priori* conditions of knowledge). Kant's views of transcendental reflection and the transcendental significance of unschematized

[23] A290/B346, cf. A845/B873; 3:186.8–19, 546.16–24; cf. Förster (1989b, 291).

[24] *E.g.*, B*xxvi*, B146, B309; 3:16.34–17.5, 116.34–5, 210.35–211.10; A248–50, 4:162.33–163.28; cf. the references cited in note 22.

[25] Paton (1936, 1:261) comments: "It is because Transcendental Logic has a manifold of pure sensibility before it, as set forth in the Transcendental Aesthetic, that it has any content: apart from this the pure concepts with which it deals would be without any content, and would be completely empty [A76–7/B102]. [Footnote: It would perhaps be more correct to say that their content would be the empty forms of judgment.] Kant is as clear and explicit on this point as a man could be. If we fail to recognize this truth as absolutely essential to his whole argument, the *Kritik of Pure Reason* is to us no better than a sealed book."

[26] B25, cf. A56/B80–1; 3:43.10–20, cf. 78.7–18.

categories are crucial for understanding the basis and the intelligibility of Kant's view of things in themselves affecting (causally stimulating) our sensibility.[27]

9 KANT'S TRANSCENDENTAL REFLECTION ON SENSIBILITY

Kant holds that on the basis of transcendental reflection we know that our modes of sensibility are passive.[28] They are passive, that is, merely receptive, not spontaneous; their activation requires stimulation by something else. Since space and time are the forms of human intuition, the stimulus comes to have specific spatial and temporal characteristics in our intuiting it (A358, 359). Therefore, generally speaking, the stimulus must have the capacity to affect our forms of intuition, and it must not otherwise have the spatial and temporal characteristics we intuit it as having. This much Kant purports to demonstrate on the basis of transcendental reflection on our sensibility. This reflection requires using only a minimal concept of causality, no more specific than that of a relation between agent and patient, or indeed between ground and consequent.

In this regard, one might urge that Kant ought to speak only of the thing in itself as "grounding," but not as "causing," sensory affection. This is a nicety Kant does and can overlook. Kant uses both terms, "cause" and "ground," in such contexts. What matters more than the term is whether the term is used in a context in which determinate empirical judgments are possible. No such judgments are possible in the context of reflecting transcendentally on the source or nature of sensory affection. So long as this basic point is kept in mind, either term can be used indifferently, just as Kant does.

The important point is that Kant's use in this context of this minimal concept of causality merely requires thinking carefully about and reflecting on our (alleged) forms of sensibility and the general transcendental conditions of its stimulation. This does not require a schematized concept of causality, and it does not require subsuming intuitions of particulars under concepts. The transphenomenal "application" of concepts Kant proscribes is the purported subsumption of unsensed particulars under nonschematized concepts in determinate, theoretically cognitive judgments.[29] If there are other legitimate ways of identifying particulars, whether singly or in

[27] Prauss overlooks Kant's views about the transcendental significance of categories (*Ding* 75, 81). This appears to be part of what leads him to develop his own version of transcendental reflection.
[28] A19–21/B33–5, A50–2/B74–6; 3:49–51, 74–6.
[29] Cf. A247–8/B304–5, quoted above, p. 48.

kind, then these particulars can be legitimate objects of Kantian thought, of transcendental knowledge (of a necessary material condition of experience), or of what Kant calls "practical knowledge," even though they cannot be determinate objects of "theoretical" knowledge – where "theoretical" knowledge includes both synthetic *a priori* and empirical knowledge of particular objects.[30] Kant's practical postulates are designed to be just such a way of identifying particulars – God, free agents, and immortal souls – and thus giving to these concepts "objective reality" (see §12), Kant's term of art for (possible) objective reference.[31]

I include the qualifier "possible" here, not to equivocate, but to stress that Kant's transcendental enterprise is concerned with establishing the necessary conditions under which alone we can determinately refer to and know particular objects and events. If Kant can establish such conditions, then he can establish the legitimate possibility of our using certain concepts to refer to and to judge those particulars. Actual occasions of such reference and judgment require, in addition to the transcendental conditions of judgment, empirical or moral conditions of judgment about the particulars in question. Those conditions are provided by observations of objective states of affairs (theoretical judgments resulting in empirical knowledge), by our context of deliberation about agents' behavior (practical judgments resulting in moral prescriptions or evaluations), or by the conditions for moral action (the postulates of practical reason concerning freedom, immortality, and God). I suggest that Kant's transcendental reflection on sensibility is, in effect, another way of generating "objective reality" for the

[30] Much havoc has been inadvertently wrought in the literature by uncritically assuming that any Kantian *use* of concepts must count as *application* of those concepts, where application is a matter of subsuming intuitions of particulars under schematized categories. Strawson made this mistake, if implicitly, in his assertion of Kant's alleged principle of significance.

[31] In connection with the distinction between phenomena and noumena, and in support of his general thesis, that the categories and the principles defined in their terms can only be given "real" definitions by specifying the conditions under which objects can be given which correspond to those concepts and principles, Kant says the following about the category of causality: "If I omit time, in which something follows on something else according to a rule, I would find nothing more of the concept of cause in the pure category than that it would be something on the basis of which the existence of something else can be inferred. However, on that basis not only could cause and effect not be distinguished, but also because this capacity to infer [*Schließenkönnen*] of course at once requires conditions about which I know nothing, the concept would have absolutely no determination for its application to any object" (A243/B301, 3:206.10–17). Notice that Kant does not say here that, abstracting from time, there would be no difference between cause and effect; he does not retract his asymmetrical characterization of the category of causality as "The relation of causality and dependence (cause and effect)" (A80/B106, 3:93.8–12). He only says that the inference from one thing to the existence of another would be symmetrical. That is, we could as well infer the existence of the cause from the effect, if only we could identify either one of them.

concept of a noumenal cause of sensory intuition. Further explanation of this is not possible, nor, in Kant's view, desirable; it is an explicit aim of the Critical philosophy forever to foreclose on the prospect of a materialist, or indeed any causally deterministic explanation of the mind.[32]

This view does not require a doctrine of "double affection" (the idea that a noumenal thing in itself affects our noumenal ego in tandem with a phenomenal object affecting our empirical sense organs). As Kant notes in connection with the immateriality of the soul, matter is not a thing in itself, but only our way of representing certain spatiotemporal material determinations that constitute only a state of the thing in itself, although the thing in itself would have a different nature than this (A360, 4:226.35–227.4). An (unspecified) thing in itself causally affects our forms of sensibility, and we experience this affection as specific spatiotemporal representations (cf. A288–9/B344–5, 3:231.3–19). This does not involve two realms of objects (noumenal and phenomenal), nor any numerical isomorphism between things in themselves and phenomenal objects.[33] "Phenomenal objects" are the appearances to us of noumena, which we recognize in transcendental reflection to result jointly from the formal, ideal conditions of experience (our forms of intuition and our categories of judgment) and the affections of our sensibility by noumena. Phenomenal objects have empirical reality insofar as we experience them as existing distinctly from and independently of us in space and time, and as having mind-independent causal interrelations (see §11). We only need to recognize that the causal affection of things in themselves, which is only generically specifiable in transcendental reflection, has a complex effect on us due to our forms of sensibility. Transcendental reflection on the conditions of sensibility does not enable us to apply the concept of cause to any particular objects, but it does enable us to recognize the passivity of our sensibility. That suffices to determine that our sensibility would remain inactive, we would have neither particular sensations nor sensible intuitions, unless our sensibility were stimulated by something other than ourselves. I grant that Kant does not say enough about transcendental reflection, or how such reflection enables us to use concepts in determining various important parameters of our cognitive powers, but if we do not grant him at least this much, then he cannot even formulate his

[32] A383, 4:240.1–3; B419–20, 421, 3:274.9–15, 274.36–275.3; *KdU* §89, 5:460.20–32; see below, §61.

[33] The idea that Kant believes there are two realms of objects, noumenal and phenomenal, where noumenal objects (somehow) cause phenomenal objects, has been dubbed a "two worlds" view. I reject this interpretation.

specific brand of transcendental idealism, which holds that we supply the form, while something else supplies the matter of experience.

10 NOUMENAL AND ATEMPORAL CAUSALITY

Strictly speaking, this view does require atemporal causality. However, this does not have the untoward consequences usually alleged against it.[34] Kant often speaks of things in themselves as neither spatial nor temporal, because they are not "in" our forms of intuition, space and time. However, once space and time are analyzed as nothing but human forms of intuition, it is possible, both logically and metaphysically, that things in themselves have some inherent characteristics that are analogous to (subjective) space and time. For the sake of discussion, call them "r-spatiality" and "r-temporality" ("r" for real, or independent of our forms of intuition). Focus for now on the more important case of the time-analog, r-temporality.[35] It suffices for Kant's view to hold that things in themselves do not have the temporal characteristics we intuit them as having; they may have other, to us unimaginable, r-temporal traits. If there is some such time-analog in the noumenal realm, then the r-temporal aspects of noumena can support the "happening-analog" involved in noumenal causal episodes. We may not be able to articulate this position further, and it may not be pellucid, but it is a possible position (both logically and metaphysically), and Kant has very strong reasons for regarding it as obscure, namely, that our imagination (and in some regards the determinate use of our understanding) is limited by our forms of intuition. To object that there is only time and there can be no noumenal analog to temporality, such as r-temporality, would be a prime instance of transcendental illusion, for this objection rests on supposing that something subjective, time as one of our forms of intuition, holds objectively of things in themselves; either time holds of them or nothing does.[36] This objection displays exactly the kind of dogmatic confidence that our concepts apply to or hold of reality in itself against which Kant incessantly argues. This is to say, to reject the puzzling notion of a noumenal time-analog, which I have called "r-temporality," out of hand as incoherent or excessively obscure would be to beg the question flatly against Kant. As Allison notes, Kant's remark about a

[34] Wood (1984b) argues valiantly for the atemporal causality allegedly required by noumenal causality. Bennett (1984, 102) replied that a "making to begin" that is not itself a "happening" is a contradiction. Cf. Howell (1992), 56.

[35] Kant is explicit that there is a "transcendental" sense of things being "outside us," according to which those things are things in themselves that are distinct from us, though this involves no spatial determinations (A373, 4:234.21–3).

[36] A297/B353, 3:236.19–29; A396, 4:247.24–5. Regarding transcendental illusion, see Grier (2001).

supposed object of a nonsensible intuition, whose "duration would not be time" (B149, 3:118.23) suggests "that Kant might not rule out all noumenal analogues to our sensible forms" (*I&F*, 185 n 18).[37]

II KANT'S METAPHYSICAL "DUAL ASPECT" IDEALISM

The view I have sketched and attributed to Kant is, I submit, intelligible. It may be false or insupportable – that depends on the soundness of Kant's analysis of and arguments for it – but it is not incoherent or unintelligible.[38] Strawson's objection, that any intelligible contrast between appearances and reality vanishes in the case of Kant's distinction between appearances and things in themselves, would be pertinent only if Kant were trying to draw a distinction among appearances between veridical and illusory appearances. Kant retains that distinction within the empirical realm, but at the transcendental level his distinction is between objects as they appear to us as we intuit them, and objects as not intuited by us. Objects are nonetheless real; Kant merely claims to distinguish between two broad classes of their aspects.[39]

[37] It is sometimes suggested that noumena in any positive sense are entirely nonrelational, and are unknowable (B67), *inter alia* because all we can know in or through intuition are relations (B66). Were noumena in any positive sense entirely nonrelational, then they could have neither quasitemporal nor quasispatial relations. However, the alleged nonrelationality of noumena in any positive sense would thwart Kant's account of moral agency *ab initio*. Kant's claim, that through intuition we only know relations (B66), does not entail that we know all relations of whatever appears to us through intuition. We may only know a subset of the relations of whatever appears to us; those things may have other, empirically unknown and unknowable relations. Hence this premise does not entail that noumena are utterly nonrelational. More significantly, the premise crucial to this suggestion from B67 mentions neither noumena nor *Dinge an sich*. Instead Kant states: "Nun wird durch bloße Verhältnisse doch nicht eine Sache an sich erkannt" (3:69.32–3). However, "*Sache an sich*" is to be understood here, not in its transcendental, but rather in its empirical sense: Kant plainly speaks of it having a spatial location, and of whatever may be causally active "*in den Dingen selbst*" aside from their changes in place (3:39.30–2). The contrast relevant to Kant's distinction here between phenomena and noumena is that phenomena consist solely in relations, whereas noumena can also have nonrelational characteristics.

[38] The most subtle and insightful analysis known to me of how Kant's view of space and time as *a priori* subjective forms of human intuition goes awry is Sellars (1968), 230–8.

[39] B69–71 & note, B278–9; 3:71.3–62.9, 193.13–24; A376–7, 4:236.12–32. See the next note, and Greenberg (2001). Hanna (2001, 95–119) also argues that Kant's transcendental idealism, including transcendental affection, is coherent, for reasons similar to those advanced here. However, he does not much investigate what Kant understands by a "form of intuition," and so does not address the highly metaphysical character of Kant's view. He ultimately claims (*ibid.*, 11 in 70) that Kant is a Two-Concept theorist – Hanna's designation for his interpretation of Kant's distinction – about noumenal objects while being a Two-World theorist about noumenal subjects. This sits ill with Hanna's rejection of the "Two World" interpretation in general, and is hardly warranted by his analysis. The brevity of his analysis allows Hanna to turn more directly to his central concern with semantic issues, though it sells short Kant's metaphysics, along with the contribution of Kant's practical philosophy to his semantics.

Kant expressly states this metaphysical "dual aspect" view of things in a note to the second edition preface:

> it is only feasible [to make an experiment to test the principles of pure reason] with the *concepts* and *principles* which we assume (*annehmen*) *a priori*, namely, insofar as one sets them up such that the same objects can be regarded *on the one hand* as objects of the senses and of the understanding for experience, but *on the other hand* as objects which one merely thinks, at least for reason by itself (*isolierte*) which strives to overstep the bounds of experience; so that [objects] can be regarded from two distinct sides. Now if it is found, that when one regards things in that doubled perspective, there is accord with the principle of pure reason, but with a single perspective there results an unavoidable contradiction of reason with itself, then the experiment is decisive for the correctness of the above distinction.
>
> (B*xviii* note, 3:13; cf. B*xxv–xxvii*, 3:16.30–17.20)

The question concerns whether this double perspective on one and the same object is purely methodological, or instead relies on metaphysical views about the contrast between things as appearances (or objects of experience) and things in themselves (or objects of pure reason). I contend that, to be faithful to Kant's view, the double aspect view cannot simply be two ways of thinking about or describing objects. Rather, those two ways of thinking about objects must be based on, because they can only be justified by, the metaphysically distinct characteristics objects have as intuited by us and as not intuited. For example, Kant plainly is committed to it being the same object, or the same being, whom we regard alternately as a human body and as a rational agent, as he indicates directly in his treatment of this topic in the Antinomies (A538/B566, 3:366.9–16), in his analogical argument for ascribing rational freedom to human behavior, and in the second *Critique* (below, §12). Kant holds that the distinction between phenomena and noumena is not simply one of description, but concerns objects as intuited by us and as not intuited, or, more specifically, those states of an object that occur or are evident as we intuit them and the other, nonintuitable states of that object. On Kant's view, the former are all spatiotemporal, though none of the latter are.

Kant states this view many times in the first *Critique*, perhaps most succinctly when he presents his transcendental idealism as the key to solving the Antinomies:

> Our transcendental idealism . . . allows that the objects of outer intuition, even as they are intuited in space, and as their changes in time are presented in inner sense, are also actual. For since space is just (*schon*) a form of the intuition, which we call outer, and without objects in space no empirical representation would be given: thus we can and must accept extended beings in space as actual; and the same holds

also for time. But that space itself, together with time, and along with both of them all appearances, are of course in themselves not *things*, but rather nothing but representations and they utterly cannot exist apart from our mind . . .

(A490–1/B520, 3:339.14–24)[40]

Kant does hold a "double aspect" view of things; but the "double aspect" things have is not due simply to two ways of describing them. It is due to two ways of regarding or considering things, where those two ways are tied to an idealist metaphysics. According to Kant's idealism, space and time are forms of the way in which we human beings intuit things, or have immediate cognitive relation to them. The spatial and temporal characteristics of our empirical representations of things are generated through our forms of intuition. Consequently, the characteristics objects have or display differ radically depending on whether they are intuited by us. Only due to this (alleged) fact are we at all entitled to consider or regard objects in the two radically distinct ways Kant defends, namely, insofar as objects are not intuited by us, and insofar as they are intuited by us.

This doctrine is central to Kant's "Copernican Revolution," according to which *a priori* knowledge of objects is only possible "if the object (as object of the senses) must conform to the constitution of our faculty of intuition," rather than our intuition conforming to objects (B*xvii*, 3:12.15–19). This contrast is not simply a contrast between descriptions (as Prauss, Buchdahl, and in some moods Allison would have it); it is a contrast between the kinds of properties "of" things as intuited by us and as not intuited by us. Kant's epistemology, including his account of "epistemic conditions," is rooted in his highly metaphysical views about space and time as forms of human intuition, namely that space and time are formal features of the way in which we intuit things and events, or the way in which we receive sensory stimulation, that is, sensory affection.[41] We are entitled to describe objects in these two fundamentally different ways – in themselves or spatio-temporally – due to the (alleged) metaphysical fact that our forms of intuition, space and time, generate this second aspect of things insofar as we intuit them.

The metaphysically tricky point in Kant's analysis is that when he grants (in the above quote) that "objects of outer intuition . . . are actual" or (in

[40] Cf. A30/B45, B306, B307, B308–9, A254–5/B310, A287–8/B344–5, A491–2/B520–1, A492–4/B521–2; 3:57.5–14 209.9–17, 209.32–210.4, 210.21–34, 211.15–35, 230.30–231.13, 338.19–27, 340.11–341.3; A248–9, 4:162.33–163.19.

[41] Recognizing that Kant relies on two ranges or kinds of properties of things does not require ascribing to him a "two world" ontology, which invites fabricating the doctrine of double affection.

the first edition Transcendental Aesthetic) that "light affects our senses in certain ways" which result in colors, this holds only of objects "considered as appearances." Spatiotemporal "objects" are "actual" if they accord with the material conditions of experience, which presupposes that they also accord with the formal conditions of experience (A218/B265–6, 3:185.22–5). It suffices, according to Kant, for something to be actual that it stand in relation to an actual perception in accord with the Analogies of Experience (A225/B272, 3:189.23–8). However, in the Analogies of Experience, indeed, right in the midst of the Second Analogy concerning the rule-governedness of causal relations – a cornerstone of Kant's empirical realism – Kant makes quite clear that empirically real, actual spatiotemporal objects exist only in our representing them:

> Now although appearances are not of course things in themselves and yet just the same are all that can be given to us to know, I should show what kind of connection in time the manifold in the appearances itself obtains, such that the representation of it in apprehension is always successive. Thus *e.g.* the apprehension of the manifold in the appearance of a house which stands before me is successive. Now the question is whether the manifold of this house itself would be successive unto itself, which of course no one grants. But now as soon as I raise my concepts of an object up to transcendental significance [*sic*], the house is absolutely no thing in itself, but only an appearance, that is, representation whose transcendental object is unknown. What do I thus understand by the question, how the manifold itself may be connected in appearance (which of course is nothing in itself)? Here that which lies in the successive apprehension is regarded as representation, although the appearance which is given to me – despite the fact that it is nothing more than a totality (*Inbegriff*) of these representations – is regarded as the represented object with which my concept, which I draw out of the representations of apprehension, should correspond. One soon sees that . . . appearance, as opposed to the representations of apprehension, could be represented as their object distinct from them only if they [the representations of apprehension] stand under a rule which distinguishes them from any other apprehension and which makes one kind of connection of the manifold necessary. That in appearance which contains the condition of this necessary rule of apprehension is the object.
> (A190–1/B235–6, 3:168.25–169.16)

Though much in this passage is challenging and concerns issues not presently relevant, Kant is quite plain about three important points. First, "rais[ing our] concepts of an object up to transcendental significance" is achieved by transcendental reflection (cf. Prauss *Ding*, 75 n 15). Second, Kant's distinction between phenomena and noumena is a transcendental distinction, which can only be drawn and used at the transcendental level, not the empirical level of concrete experience. Third, appearances of

objects are distinguished from our apprehension of them only insofar as sensory representings are connected in rule-like ways that require a particular kind of order of apprehension. Only insofar as we judgmentally integrate our sensory intuitions in such rule-like ways can we represent manifest objects in space and time. Appearances to us consist in sensory representings,[42] in which sensations refer to "the real" characteristics of manifest spatiotemporal objects (cf. §7, regarding Kant's sensationism).

However, considering the objects of human knowledge in general from the transcendental perspective, and on the basis of transcendental idealism, reveals (according to Kant) that the entire spatiotemporal realm is merely an appearance to us, because space and time are nothing but forms of human intuiting, through which alone things in themselves acquire spatiotemporal characteristics (above, §5). According to transcendental idealism, spatiotemporal objects exist only in their being represented by us, or in their (in principle representable) relation to objects we represent. According to transcendental idealism, "causal relations" among "phenomenal objects" is commonsense shorthand for (at least possible) representations of certain rule-like relations among manifest objects or events. From

[42] *Per* Kant's remark about the given appearance of a house being an "*Inbegriff*" of representations of apprehension; cf. A494/B522, 3:340.27–34. (This last passage should counter any temptation to read the last line of the above quote from the Second Analogy differently.) Howell (1992, 38–40) and Robinson (1994, 419–20) cite an array of passages in which Kant appears to identify appearances with representations. They hold that these passages are counterevidence to Allison's dual aspect interpretation of Kant's distinction between appearances and things in themselves, and Howell contends that they provide evidence for an appear*ance* theory and against the appear*ing* theory of this distinction, which would include the interpretation developed here. (On the distinction between these two views, see Barker, 1969.) These issues are complicated; they cannot – and need not – be fully disentangled here. It suffices for my purposes to show that an appearing theory provides a basis for a coherent interpretation of noumenal causality. If that is possible, that provides grounds for emphasizing the passages that favor an appearing theory. However, something much stronger can be said: Kant's sensationism makes clear that any "representations" that can be "appearances" of empirical objects or events must be generated by conceptually synthesizing complexes of sensations. The objects of such representations appear to us through those complexes. This entails that appearances and representations of appearances have a mind-dependent intentional existence *and* it entails that they are functions of the contents (the "objective reality") of the concepts that in part generate them. (Kant's use of the term "*Inbegriff*" quoted above may well only refer to the content of the complex of concepts and sensations involved in representing the appearance of the house, and not to a numerical identity of the appearance of a house and the sensations and concepts which generate it.) This provides representations and appearances all the "mind dependence" Kant ascribes to them in the passages cited by Howell and Robinson. However, this does not require that what we are aware of as objects are our sensations or "ideas" (in Locke's or Berkeley's senses) or complexes thereof. I think Kant may be guilty of hasty and misleading expression, but not of inconsistency or (*sub specie* Transcendental Idealism) falsehood. Also see Allison's (*I&F* 12–14) response to Robinson on this count. I reply to Howell's (1992) objections to transcendental idealism in Westphal (1997b, note 32).

the transcendental level alone can we understand that causal relations in the empirical realm are not self-sufficient; they are nothing but relations constructable by us in our representing manifest objects and events. Kant's transcendental idealism is a baroque, decidedly metaphysical view.[43]

12 NOUMENAL CAUSALITY AND RATIONAL AGENCY

Kant's twofold view of things, based on the metaphysical distinction between things as we sensorially intuit them and things as not sensorially intuited by us, is central to his official analysis of free action. The non-phenomenal states of an object cannot be known empirically; they can only be objects of thought. Kant's practical writings aim to give us clear and convincing grounds to think about the noumenal states of human agents in specific, warranted ways. Do Kant's locutions about the noumenal causality of free rational agents merely represent permissible ways of thinking about agents and their behavior, or are these thoughts supposed to be true? Passages cited at the outset (§6) support the latter; some others suggest the former, weaker alternative. At B430–1 Kant remarks that our rational capacity to legislate *a priori* relates us to an "intelligible (admittedly only thought-of) world."[44] In connection with our rational agency, Kant remarks that the requirements of physical explanation, and in particular the principle of the causal connectedness of appearances, is not at all infringed by the assumption that among natural causes there are also found some causes that are only intelligible – provided that this is merely a "fiction" (A545/B573, 3:370.5–9). Similarly, in connection with reason having causality, Kant hedges by saying "at least we represent reason" in this way (A547/B575, 3:371.15–17). Finally, Kant remarks that in connection with freedom we "regard" reason itself as a determining cause, and that the

[43] I do not ascribe phenomenalism to Kant. "Phenomenalism" requires the (essentially Cartesian) thesis that each "phenomenon" ("sensing strictly speaking," "idea," "sensory impression," "sense datum," *etc.*) is exactly what it seems or appears to us to be. On Kant's view, only objects of judgments can be objects of self-conscious awareness. Kant's view does not require any sort of infallibility or incorrigibility, though it does require that if we are aware of an object at all, our judgment about it cannot be wholly false (cf. *Logik Blomberg*, 24:84.25–31). More importantly, phenomenalism aims to account for our experience of objects and events within and at the level of our empirical experience. Kant's distinction between phenomena and noumena rejects any such attempt. All of his discussion of phenomena and noumena proceeds only at the transcendental level, all the resources of which are unavailable at the empirical level of our actual experience. (Insisting that Kant's view amounts to "Kantian phenomenalism" would be a merely nominal victory that invites confusion.)

[44] Kant says this in connection with our theoretical legislation of the basic laws of nature (B430–1, 3:280.10–21).

series of events initiated by an agent's act is "viewed *as if*" (Kant's emphasis) it began from and with the agent's resolve (A685/B713, 3:451.24–30). These passages appear to contrast sharply with those discussed at the outset (§6), which show no such hedges. Where does Kant stand?

A brief remark must suffice for now. One problem concerns Kant's belief in thoroughgoing determinism in the phenomenal – including psychological – realm. I agree with Allison that this psychological determinism cannot be retained along with Kant's account of freedom. Free action involves choosing to adopt ends and motives (what Allison calls Kant's "incorporation thesis"). Because this choice is a free act, thoroughgoing psychological determinism must be rescinded.[45] However, I locate the needed revision differently. Kant himself argues *against* the possibility of deterministic psychology: Kant's Critical principles ultimately proscribe genuine causal judgments within the sole form of our inner psychological life, time. He thus scuttles the issue of determinism, which requires wholesale causal determinism, certainly within the phenomenal realm. Thus there is no problem granting Allison's "incorporation thesis." The problem lies instead in understanding how free (or, not known to be determined) psychological acts are to be coordinated with, and understood as causing, otherwise determined bodily behavior in space and time (see below, §61).

Setting this problem aside does not, however, settle the core issue here: is "noumenal freedom" simply a rationally constructed fiction? That would make interpretive life easy for Prauss's and Buchdahl's view of affection. However, this is not and cannot be Kant's view. From a theoretical perspective, the noumenal freedom and causality of agents is a conceptual, theoretical possibility; freedom is a "problematic concept," we have no theoretical grounds either to affirm or deny its reality, or to refer that concept to any object or event.[46] From a practical perspective, we have grounds to attribute objective reality to this idea. Kant's practical philosophy provides sufficient grounds to conclude that we are in fact free and causally effective agents. Why must this be Kant's view? On the negative side, if Kant's view ultimately were that free agency were simply a rationally constructed fiction, one that we were theoretically permitted though practically required to entertain, this would be even more wretched a subterfuge than Kant thought compatibilism to be. On this interpretation of Kant's view, our actions would be as thoroughly determined by natural

[45] *KTF* 39, 52, 55, 65, 241.

[46] A concept is "problematic" if no theoretical grounds can be given to determine whether an object corresponds to it (A254–5/B310–11, A286–8/B342–4, A771–2/B799–800).

causes as the compatibilist holds; we would be no more free than a turnspit (*KdpV* 5:95–7). Yet on this interpretation we would be required by the Critical philosophy to think of ourselves quite otherwise, in accord with the fiction of noumenal freedom. Kant's aim to deny knowledge in order to make room for faith (B*xxx*, 3:19.5–6) does not and was not supposed to justify our believing demonstrable falsehoods! Kant's hedges, cited at the beginning of this section, are qualifiers needed within the *theoretical* perspective in which those remarks are formulated. From a theoretical perspective, we are only entitled to think of rational freedom as a "problematic concept." However, as noted at the outset (§4), a cardinal tenet of Kant's idealism is that the theoretical perspective is only one of two, among which the practical perspective has priority. Consider now the positive case for viewing rational freedom as more than a theoretically permissible fiction.

13 A POSITIVE VIEW OF NOUMENAL CAUSALITY

Consider first Kant's firm policy, tested by the censors, not to publicize what he did not believe.[47] Yet even after the publication of the first *Critique*, Kant lectured freely in 1783–4 about God's causality – a noumenal cause if ever there was one.[48] Similarly, Kant continued to base his lectures on metaphysics on Baumgarten's *Metaphysica* even after Johann Schultz's handbook of Kant's Critical philosophy appeared in 1784. These facts strongly suggest that Kant retained significant metaphysical views, and that his criticism of traditional metaphysics is far more restricted than is often supposed (cf. Ameriks 1992a).

Indeed, rather than having been converted by Hume into a verificationist or protopositivist, Kant became a modified Leibnizian. Kant grants, that is, that Leibniz's monadology would be true, *if* space and time were not forms of human intuition:

> The understanding requires namely first, that something be given (at least in principle), in order to determine it in a certain way. Hence in principle in pure understanding matter precedes form, and thus *Leibniz* first assumed things (monads) and their internal power of representation, in order subsequently to ground on that their external relation[s] and the community of their states (namely their representations). Thus space and time were possible, the former only through the relation[s] of the substances, the latter through the connections of their mutual determinations as

[47] *MdS* 6:433 note; Letter to Moses Mendelssohn of April 8, 1766 (Ak 10:69; Zweig, 54); and Kant's Note given in Ak 12:380 (1st edn, 406).

[48] In the third section of the "Religionslehre Pölitz" (Ak 28:2.2, 1091–117; Kant 1978, 131–59).

grounds and consequents. In fact that would have to be the case [*sic*], if pure understanding could be related immediately to objects, and if space and time were determinations of things in themselves. But if they are only sensible intuitions, in which we determine all objects only as appearances, then the form of intuition (as a subjective characteristic of sensibility) precedes all matter (all sensations), and thus space and time precede all appearances and all data of experience and indeed first make these possible. (A267/B322–3, 3:218.27–219.6)

Ultimately, Kant substitutes noumena for Leibniz's monads.[49] Kant's account of space and time as forms of intuition affords him both an empirical realism and a metaphysical realism unavailable to Leibniz. Thus Kant can repudiate both of the standard senses of idealism current, though not always distinguished, in his day, according to which idealism is the denial of a material spatiotemporal world or the denial of an immaterial world "corresponding" to the represented material world.[50] Though the only theoretically permissible sense of noumenon is negative, namely, the sense in which there must be a nonsensible ground of sensible experience, this theoretical perspective does not exhaust the philosophically legitimate grounds for ascribing characteristics to "noumena."[51] Quite the contrary.

As noted earlier, one main aim of Kant's practical philosophy is to give us grounds for holding that certain ideas of reason, which cannot be known theoretically to hold of any objects, can in fact refer to objects. These ideas include both freedom and God. Kant specifically takes up the issues about meaning and reference this raises near the end of the Dialectic of the second *Critique*. He insists there that no intuitions are supplied for these ideas, and so no theoretical knowledge is generated on their basis. However, Kant maintains,

The three aforementioned ideas of speculative reason are not themselves cognitions; they are, nevertheless, transcendent *thoughts* in which there is nothing impossible. Now through an apodictic practical law, they, as necessary conditions of the possibility of that which this law requires to be made an object, acquire objective reality. *That is*, they show by this *that they have objects*, but we cannot indicate how their concept refers to an object . . .

(*KdpV* 5:135.2–9; tr. Beck, 140; emended)

[49] I stress *substitute*; Leibniz is surely among the "idealists" from whose view Kant there distinguishes his. On the Leibnizian background of Kant's Critical epistemology, see Cassirer (1981, ch. 2, §4); Martin (1955), introduction & ch. 1; Paton (1969); Buroker (1981), especially chs. 2, 5; Langton (1998), especially ch. 4; and Edwards (2000), and the recurrent discussions of Leibniz in Ameriks (1982) and Laywine (1993).

[50] These two senses of "idealism" are discussed by Smith (1923, 298–9), who follows Vaihinger (1884, 107–11).

[51] A248/B305, B306–9, A254–6/B310–12, A286–9/B342–5; 3:208.16–210.34, 211.15–212.27, 229.30–231.19.

Kant explicitly states that practical reason is able, through the arguments set out in the second *Critique*, to give "objective reality" to the ideas of freedom and God, even in the absence of corresponding intuitions. In this way, what must from the theoretical perspective be regarded as mere *Gedankendinge* – merely "problematic concepts"[52] – are shown from the practical perspective to be genuine thoughts with legitimate possible reference to particular objects.

Kant states this directly:

> Now the concept of an empirically unconditioned causality is indeed theoretically empty (lacking any relevant intuition), even though it is still possible and refers to an indeterminate object; however, in the moral law, and consequently in a practical connection, the concept is given meaning (*Bedeutung*); thus I have no intuition which would determine its objective theoretical reality, but it nevertheless has an actual application, which can be exhibited *in concreto* in [agents'] characters (*Gesinnungen*) or maxims; that is, its practical reality can be pointed out. This is sufficient to justify the concept even with regard to noumena.
>
> (*KdpV* 5:5:56.18–27)[53]

These passages are unequivocal, and show the central importance of Kant's moral theory to his complete theory of meaning and reference. (Like Strawson, Sandberg (1989, 28f.) disregards this fundamental facet of the Critical philosophy.) Conversely, if Kant were saddled with the view that freedom was a mere fiction, we would be required on practical grounds to think of something as actual that we knew on theoretical grounds not to exist. This would directly contradict Kant's assertion in the previous passage that the thought of freedom, theoretically transcendent though it is, contains nothing impossible. This is why freedom is a theoretically problematic concept, rather than a demonstrably vacuous one.

The arguments of the second *Critique*, if successful, give objective reality to the idea of, for example, freedom. How do we get from the legitimate possible reference of the concept of freedom to referring to particular free agents? Kant relies, in effect, on an argument from analogy. The Critical philosophy justifies the general principles needed for this analogical inference, so when we observe behavior that can only be explained by intentional purposiveness, we are entitled to ascribe sensibility, understanding, and reason to that agent.[54]

[52] See above, note 46.

[53] For discussion of Kant's theory of character (*Gesinnung*), see Allison, *KTF* 136–45. However, Allison treats "character" as constitutive, whereas it is quite clearly a regulative construct; see below, §61.3.

[54] *KdrV* A546–7/B574–5, 3:370.33–371.14; *KdU* "Allgemeine Anmerkung zur Teleologie," 5:484.7–19.

Kant's argument by analogy is instructive in this connection. Typically Kant scholars contrast "the noumenal" and "the phenomenal" realms in the generic singular. Kant's argument by analogy underscores the fact that each of us has his or her own sensory apparatus and understanding. They are of the same kind, but they are distinctly instantiated in each of us.[55] Consequently, we cannot and do not share experiences, nor do we share spatiotemporal objects or events. Our common set of *a priori* categories and forms of judgment suffices only for us to share a common *structure* to our worlds. To share one common world, we also need closely analogous sets of sensations to provide occasions for our making common judgments about what we experience, based on complementary experiences of spatiotemporal phenomena. This is a corollary of Kant's fundamental view that we generate only the form or structure of experience, but not its content, which is determined by the matter of sensation, given to us *ab extra*. According to Kant's transcendental doctrine of our sensory affection, the thing in itself (or things in themselves; this issue need not be settled here) is the causal source of our sensations. Were there no noumenal grounds for phenomenal appearances to each of us, there would be no way (within Kant's ontology) to publish, distribute, read, or translate Kant's *Critique of Pure Reason*. Nor would there be any basis for first- and third-person experiences of the same human body. Since Kant analyzes empirical objects (at the transcendental level) in phenomenal terms, there must be a noumenal basis for these phenomena if we are to share a world at all.[56] Kant holds that in both cases, in cases of mere empirical things and in cases of free agents, a supersensible ground is responsible for sensory appearances to us (A358–9, 4:225.30–226.16). Within Kant's ontology, only noumena and their causal affection of our sensibility can account for our having intersubjectively coordinated sets of experiences, such that we can interact in and with a shared, public world. Sometimes experience warrants believing that some supersensible grounds are more complex and morally significant than others, because some of them are spontaneous intelligent causes of behavior.[57]

[55] A363, 4:228.27–31. Paton (1936, 1:451–53) recognizes that space and time are distinctly instantiated through each human individual's forms of intuition.

[56] I do not say that Kant analyzes empirical objects in phenomenal*ist* terms. See note 43 above.

[57] Allison (*KTF* 73–4) rightly points out (against Beck) that Kant's account of the noumenal ground of phenomena does not entail that every phenomenon is transcendentally free; a noumenal ground is only a necessary, not a sufficient, condition of transcendental freedom. Transcendental freedom is only ascribed on the basis of actions that can be understood only through the causality of reason (A545/B573).

14 CONCLUSION

Kant's account of "noumenal causality" is coherent, and transcendental idealism is a decidedly metaphysical view, according to which things have spatial and temporal characteristics only insofar as we human beings intuit them. Kant's transcendental idealism, and his supporting account of transcendental reflection, are more sophisticated than Kant's expositors and critics have generally recognized. Keeping the metaphyscial character of Kant's transcendental idealism clearly in view underscores the significance and the merits of realism (*sans phrase*), which is defended in this study by three lines of criticism internal to Kant's idealism.

In chapter 3 I argue that Kant's transcendental account of the necessary conditions of self-conscious human experience entail that there is a genuine, necessary, *a priori*, formal, yet also *material* (and mind-independent) condition for self-conscious experience, namely, the transcendental affinity of the sensory manifold. The fact that a material condition can also be formal, necessary, and proven *a priori* directly undermines Kant's own positive arguments for transcendental idealism, because Kant's arguments rest on the claim that the *a priori* necessary formal conditions of self-conscious experience must be ideal in the sense that they are subjective, they are human mind-dependent. Moreover, this line of argument provides a genuinely transcendental proof of mental content externalism, which strongly supports realism *sans phrase* with regard to molar objects and events in our environs. Hence this line of argument both reinforces Kant's claim that the matter of sensation must be given us *ab extra*, and shows that transcendental idealism is both unsupported and false.

CHAPTER 3

Transcendental affinity

15 INTRODUCTION

The *Critique of Pure Reason* originated both transcendental idealism and transcendental proofs. The exact relation between them, however, has not been adequately analyzed. Transcendental analysis and proof in epistemology aim to establish a thesis to the effect that some universal, though philosophically controversial, feature of objects, such as their being spatial or substantial, is a condition necessary for our having experience of them at all, or for our having self-conscious experience at all (chapter 1). Transcendental idealism holds that such universal conditions necessary for our self-conscious experience or for our perception of objects do not hold independently of human subjects; those conditions obtain or are satisfied because they are generated or fulfilled by the structure or functioning of the subject's cognitive capacities (chapter 2). Thus transcendental idealism can be invoked to explain the necessary conditions of self-conscious experience, conditions established by transcendental arguments. Is transcendental idealism the only possible explanation of such conditions? What, exactly, is the relation between transcendental arguments and transcendental idealism?

I pursue this question by exploring the transcendental affinity of the sensory manifold.[1] I contend that: (1) This issue remains vital to the B edition, even though it omits many passages on this topic from the first edition; (2) Kant's link between transcendental idealism and transcendental arguments is substantive, not methodological; (3) Kant's analysis of "transcendental affinity" (for short) shows that there is a transcendental,

[1] Aside from Aquila (1989, ch. 4), Barsotti (1999), and Allison (2001), 37–42, this topic has been largely neglected. Carl (1992) gives it scant mention. Acquila places the issue in the context of his own "Framework" (1989, ch. 1), rather than in the context of Hume, and thus misses what is most interesting, and most problematic, about Kant's view of affinity. None of these studies plumb the constitutive depths of this topic.

but nonsubjective, condition for the possibility of unified self-conscious experience which is *both* material and formal, though neither intuitive nor conceptual; (4) This condition and Kant's arguments for it directly undermine Kant's own arguments for transcendental idealism. This criticism of Kant's arguments for transcendental idealism is entirely internal to the first *Critique*; (5) These points reveal some serious flaws in Allison's defense of Kant's idealism; finally, (6) Realists of all stripes have much to learn and to borrow from Kant's transcendental analysis of the *a priori* conditions of self-conscious human experience.

16 IS THERE A LINK BETWEEN TRANSCENDENTAL ARGUMENTS AND TRANSCENDENTAL IDEALISM?

Strawson's dismissal of transcendental idealism, coupled with his original enthusiasm for transcendental arguments, persuaded many that transcendental idealism and transcendental arguments are not inherently connected.[2] Kant held, however, that transcendental arguments can only be made on the basis of transcendental idealism. This connection is commonly assumed by nonspecialists,[3] and it has some very prominent exponents, too. For example, Henry Allison states (and in his "defense" of Kant's idealism, affirms) this connection in the following way.

> Behind Kant's formal idealism . . . lies a principle that is implicit in the *Critique* as a whole, but is nowhere made fully explicit: that whatever is necessary for the representation or experience of something as an object, that is, whatever is required for the recognition or picking out of what is "objective" in our experience, must reflect the cognitive structure of the mind (its manner of representing) rather than the nature of the object as it is in itself. To claim otherwise is to assume that the mind can somehow have access to an object (through sensible or intellectual intuition) independently of the very elements that have been stipulated to be the conditions of the possibility of doing this in the first place. This involves an obvious contradiction. The transcendental realist avoids this contradiction only because he rejects the assumption that there are any such conditions. In so doing, however, he begs the very question raised by the [first] *Critique*. (*KTI* 27; cf. 9, 110)[4]

[2] For discussion of Kant's transcendental proofs in relation to recent analytic versions of such arguments, see Förster (1989c), Bell (1999), and above, chapter 1.

[3] I have repeatedly found this assumption among philosophers when discussing transcendental proofs with nonspecialists. The assumption is explicitly made by Stroud; see below, §63.

[4] Here a note about usage is required. In American philosophical usage, "question-begging" univocally designates the logical fallacy of *petitio principii*. Like Allison, I use the term solely in this sense. British English uses the phrase to mean, "raise the question." German avoids the problem by using the Latin term.

Here Allison formulates the crucial metaphysical claim made by transcendental idealism: "whatever is required for the recognition or picking out of what is 'objective' in our experience, must reflect the cognitive structure of the mind (its manner of representing) *rather than* the nature of the object as it is in itself" (emphasis added). This contrast is codified in Allison's (*KTI* 10) distinction between "epistemic conditions" and "ontological conditions." An "epistemic condition" is "necessary for the representation of an object or an objective state of affairs." Formulated in this way, an epistemic condition could also be objective, in the sense of being a mind-independent characteristic or an "ontological condition" of the possibility of something kind of thing. However, Allison (*KTI* 11–13) makes quite plain that "epistemic conditions" in his sense are distinct from ontological conditions, so that epistemic conditions are functions of the structure and functioning of the human kind of mind or subject in question. Allison states:

> one can claim that the fundamental issue raised by the [first] *Critique* is whether it is possible to isolate a set of conditions of the possibility of knowledge of things . . . that can be distinguished from conditions of the possibility of the things themselves. (*KTI* 13)

Allison remarks that affirming that there are epistemic conditions in this sense, conditions that stem from the subject of knowledge, requires accepting transcendental idealism.[5]

Allison's formulation of "epistemic conditions" accurately expresses Kant's own view. My general aim in this chapter is to show that Kant also identified a transcendental condition for the possibility of self-conscious human experience that is not subjective, but instead is also an "ontological" condition, or rather, mind-independent real set of relations

[5] *KTI* 10. The inherent connection between transcendental arguments and idealism is also maintained, *e.g.*, by B. Williams (1968, 1974); Buchdahl, *KDR* 8, 9, 68, 91, 109–11, 170, 286; and Pippin (1988). Pippin (1988, 97) claims that transcendental arguments *sans* transcendental idealism are possible only in trivial cases. I argue that at least one nontrivial transcendental argument can be made only on a nonidealist basis. If my analysis in this chapter is correct, Pippin and Buchdahl are seriously mistaken about the relation between transcendental arguments and transcendental idealism. Harrison (1989) recognizes that transcendental arguments do not require idealism, transcendental or otherwise. Allison later acknowledged that transcendental idealism does not follow directly from there being epistemic conditions, but requires additionally Kant's positive arguments for transcendental idealism in the Transcendental Aesthetic and the First Antinomy. He admits his original treatment was ambiguous in this important regard (*I*& *F* 4–8). I shall show that although Kant held that transcendental idealism follows from there being epistemic conditions, it does not. Moreover, the reason it does not follow from there being epistemic conditions also shows that it cannot follow from any of Kant's arguments for it.

among the objects we experience. The existence of such a condition raises serious questions about Kant's (and Allison's) defense of transcendental idealism as the only possible explanation of transcendental conditions for the possibility of self-conscious experience.

Kant explicitly makes the disjunction formulated by Allison (in the first quotation above) in the first *Critique*, and again in the *Prolegomena*. Specifically, I aim to show the following about Kant's views: (1) that this disjunction, which represents the link between transcendental arguments and transcendental idealism in Kant's *Critique of Pure Reason*, is not supported by issues of method, but by substantive philosophical argument; (2) that the substantive arguments Kant uses to join them are *non sequiturs*; (3) that consequently it is possible to offer transcendental arguments on realist grounds, or rather, with unqualifiedly realist results; (4) that one of Kant's own arguments shows that he was (or should have been) aware of this possibility, and hence that he had the requisite grounds to recognize his own ontological *non sequiturs*; and (5) that Kant's very important ideas about "transcendental affinity" also point directly towards this alternative transcendental, nonidealist, realist, analysis. (6) The very possibility of this kind of transcendental proof of realism ultimately reveals a fundamental flaw in Kant's own arguments for transcendental idealism. Moreover, (7) this flaw is revealed in terms internal and intrinsic to Kant's own transcendental analysis. After establishing these points, I reconsider the first passage quoted above from Allison in detail.[6]

17 PLAN OF DISCUSSION

As so often when studying the first *Critique*, it is important to begin with Hume, in this case, his *Enquiry Concerning Human Understanding*, for the issues Kant addresses and the views he opposes (§18). I then show that Kant's link between transcendental arguments and transcendental idealism is substantive, not methodological (§19). A brief look at Kant's refutation of void space reinforces this point and shows that Kant apparently was (or at least should have been) aware that

[6] The question whether transcendental arguments, *pace* Kant's official view, can demonstrate the existence of nonformal, material conditions for unitary self-conscious experience is addressed and answered in the affirmative by Edwards (2000) in the very different case of a material ether which carries transeunt causal forces (see below, §20). "Transcendental realism" as used in this study designates the use of transcendental proof, in Kant's unique sense, to justify realism *sans phrase* regarding molar objects or events in our environs. It is primarily an epistemological view, having nothing to do with Putnam's "metaphysical realism," nor with his "internal realism."

methodologically, transcendental arguments need not be conjoined with transcendental idealism (§20). I then cite some representative passages stating Kant's own inferences from transcendental analyses of the necessary conditions of unified self-conscious experience to transcendental idealism (§21). Next I show that Kant's own doctrines in both editions of the first *Critique* in fact show that there is a nonsubjective, necessary condition for the possibility of self-conscious experience which is both material and formal, though neither intuitive nor conceptual. This condition is implied by Kant's views on "affinity," including the "affinity of appearances," the "transcendental affinity of the sensory manifold," and the "logical principle of genera" (§§22, 23). Kant argues that transcendental affinity can only be explained by transcendental idealism (§24). I argue that Kant's idealist explanations of affinity are fallacious, and that the only way Kant can avoid the realist implications of transcendental affinity is to abandon transcendental idealism and embrace unmitigated subjective idealism. My argument provides a genuinely transcendental proof of (not from) mental content externalism (§25). I also point out that this result is independent of disputes about Kant's doctrine of affection (§26). I further argue that the *non sequitur* in Kant's arguments for transcendental idealism, revealed by his views on affinity, undermines Kant's primary arguments for idealism in the first *Critique*. This is an internal criticism of Kant's transcendental idealism (§27). These results provide a basis for a detailed critique of Allison's methodology (§28). I conclude that realists can embrace Kant's transcendental analysis of the conditions necessary for the experience of objects (§29).

18 THE HUMEAN BACKGROUND

In his "Sceptical Solution" to his doubts about inductive reasoning, Hume contends that "[a]ll inferences from experience . . . are effects of custom, not reasoning," and that "custom . . . is the great guide of human life" because it alone

> renders our experience useful to us, and makes us expect, for the future, a similar train of events with those which have appeared in the past. Without the influence of custom, we should be entirely ignorant of every matter of fact, beyond what is immediately present to the memory and senses. We should never know how to adjust means to ends, or to employ our natural powers in the production of any effect. There would be an end at once of all action, as well as of the chief part of speculation. (*En* §V Pt. I; 1975, 44)

Custom can be effective only because nature is (to date) in fact so regular. Because it has been and is regular, nature can, and in every person has, "established connexions among particular ideas."[7] "Nature" here must be taken in two senses: it is human nature to develop concepts and beliefs upon repeated exposure to kinds of series of events, and nature exposes us to such repeated series.[8] In his attack on rationalist accounts of reason and its powers, Hume seized the chance to state this as ironically and pointedly as possible. He remarked, namely, that on his account of custom and its role in concept- and belief-formation, there is "a kind of pre-established harmony between the course of nature and the succession of our ideas."[9] He returned to this issue in "Of Liberty and Necessity," where he contemplated the hypothetical contrapositive case:

> It seems evident that, if all the scenes of nature were continually shifted in such a manner, that no two events bore any resemblance to each other, but every object was entirely new, without any similitude to whatever had been seen before, we should never, in that case, have attained the least idea of necessity, or of a connexion among these objects. We might say, upon such a supposition, that one object or event has followed another; not that one was produced by the other. The relation of cause and effect must be utterly unknown to mankind. Inference and reasoning concerning the operations of nature would, from that moment, be at an end; and the memory and senses remain the only canals, by which the knowledge of any real existence could possibly have access to the mind. Our idea, therefore, of necessity and causation arises entirely from the uniformity, observable in the operations of nature; where similar objects are constantly conjoined together, and the mind is determined by custom to infer the one from the appearance of the other. These two circumstances form the whole of that necessity, which we ascribe to matter. Beyond the constant *conjunction* of similar objects, and the consequent *inference* from one to the other, we have no notion of any necessity, or connexion. (*En* §VIII, 82)

This passage merits several comments. First, Hume's remark about "the memory and the senses" remaining, under conditions of nonrepeated types

[7] *En* §V Pt. II, 50; cf. §III.

[8] This point deserves emphasis because some of Kant's commentators have failed to recognize how acute Hume was in recognizing the importance of *de facto* regularities for the functioning of our thought, *e.g.*, Vleeschauwer (1934, 2:310–11, 355); Walsh (1969, 170); Smith (1923, 256); Howell (1992, 200 & note 22 (on 381)). Walsh and Howell contend that such regularities could obtain only if there were necessary connections of the kind Hume denies. This is to treat "affinity" in too strong a way. While causal relations are instances of "affinity," so are mere resemblances, and to satisfy the principle of affinity, resemblances must only occur frequently enough to enable us to recognize them, and thus (ultimately) to think. This frequency need not involve even 100 percent correlation. Allison (1972, 204, 209) recognizes that Hume, too, acknowledged the fact of the regularity of nature.

[9] *En* §V Pt. II, 54. R. P. Wolff (1973, 179) notes that this passage is relevant to Kant's analysis.

of events, "the only canals, by which the knowledge of any real existence could possibly have access to the mind" refers directly to the standard Modern distinction, familiar to Descartes, Locke, and Kant, between historical and rational knowledge.[10] Historical knowledge derives from sensory and memorial data, while rational knowledge is inferentially based on principles. Hume's claim is that, in a world exhibiting no repeated types of events or objects, there could be no knowledge based on principles, not even on empirical principles. There could be neither "inference" nor "reasoning" about natural objects or processes in such a world. The only knowledge we could have would be based solely on memory and present sensation.

Second, Hume does not question whether in such a world we could identify objects or events and their sequences in such a world; this is a prerequisite of "historical," that is, sensory and memorial knowledge. Given his theory of ideas, according to which ideas are just copies of impressions, both of which simply are conscious states, and where impressions either are or are caused by objects, there should be no such a problem. One of the great insights in Kant's Transcendental Analytic is to point out how much Hume took for granted on this count.[11]

Third, Hume inferred from this that our idea of causal necessity stems "entirely from the uniformity, observable in the operations of nature." Kant recognized that Hume's account of our idea of causal connection was inadequate, in large part because Hume took too much for granted in his claims about what is "observable." The problem, Hume rightly notes elsewhere, is that as a statistical matter of fact, we much more often observe either a cause or an effect in isolation, but not both in relation. Consequently, on Hume's empiricist account of concept- and belief-acquisition by association, we never should develop the concept of cause at all (above, §2.5). Now, to give some definite sense of the empirical use of our *a priori* concept of cause, and to show that this is a condition for the possibility of unified self-conscious experience, is a further transcendental enterprise which requires the Transcendental Analytic and the Analogies of Experience. (This is the topic of chapters 4 through 7.)

[10] Descartes employs this distinction in passing in the Third of his *Rules for Directing the Mind* . . . (AT 10:367/CSM 1:13). This distinction gives the point to Locke's claim to use the "historical, plain method" (*Es* 44). Kant uses it in the same sense as Descartes in a parallel context (A835–7/B863–5, 3:540.30–541.17).

[11] See §2.3 above and Beck (1978b, 1978c).

Fourth, in a passage that responds directly to Hume and the issues raised in the previous quotation, Kant points out that Hume's inference is a *non sequitur*; it does not follow from the requirement of regularity for employing a concept of cause that the concept of cause originates solely from that regularity. Kant argues thus:

> That the sunlight which illuminates a piece of wax melts it, but hardens clay, couldn't be discovered by any understanding from the concepts which we previously had of these things, much less infer it according to law, and only experience could teach us such a law. However, we have seen in the Transcendental Logic that, even though we cannot of course ever pass *immediately* beyond the content of a concept that is given to us, we can nevertheless know, fully *a priori*, in connection with a third thing, namely *possible* experience, the law of the connection with other things, and this *a priori*. Therefore, if previously hard wax melts, I can know *a priori*, that something must have preceded (*e.g.*, the warmth of the sun), upon which this follows according to a constant law, even though, without experience, I couldn't know this specifically, *a priori* and without the instruction of experience. He [Hume] thus concluded wrongly that the law itself is contingent, and he confused the passing beyond a concept of a thing in connection with possible experience (which occurs *a priori* and constitutes the objective reality of that concept), with the synthesis of objects of actual experience, which admittedly is always empirical. In this way he made a principle of affinity, which resides in the understanding, and expresses a necessary connection, into a rule of association, which would only be found in the imitative imagination, and which can only present contingent, and utterly non-objective, connections.
>
> (A766–7/B794–5, 3:500.2–25)

The convergence between the issues addressed in these two passages is so great that it is likely Kant wrote this with the one quoted above from Hume (*En* §VIII; *supra* p. 73) directly in mind. Kant names Hume at the beginning of the paragraph from which this passage is quoted, and the quotation begins with Kant's acknowledging Hume's point in the *Enquiry* that conceptual analysis alone cannot generate knowledge of causal relations.[12] Kant grants that knowledge of specific laws of nature is empirical, but he makes two important denials and two important claims. Kant denies Hume's claim that such knowledge is merely or solely empirical, and he denies that such laws themselves are contingent. Moreover, Kant claims that we can know *a priori* that there must be such connections among events, and he claims that this *a priori* principle "resides in the

[12] Kant names Hume at A764/B792, 3:499.10. Hume makes his point about conceptual analysis being insufficient for knowledge of causal relations by pointing out that upon our first experience of some object, in which we have an idea (*i.e.*, concept) sufficient to identify that object, we cannot at all anticipate what that thing could or will do (*En* §IV Pt. I, 27–30).

understanding." The interpretation of Kant's analysis of specific laws of nature and their modal status is controversial.[13] The important points here are that nature must be regular, and the *a priori* rational basis Kant provides for this thesis. Here Kant calls that basis the "principle of affinity." Although many passages concerning "affinity" were omitted from the B Deduction, I contend that their omission is not due to lack of good Critical pedigree. Some very important passages concerning affinity, such as the one just quoted, were retained in the B edition; understanding them requires understanding the main issue raised in the passages concerning affinity omitted from the B edition (below, §§23, 24). Before examining Kant's principle of affinity and its implications for Kant's methodological and substantive views, we should examine Kant's link between transcendental arguments and transcendental idealism.

19 TRANSCENDENTAL ARGUMENTS WITH, AND WITHOUT, TRANSCENDENTAL IDEALISM

Kant's link between transcendental arguments and transcendental idealism is substantive, not methodological. In an important passage at the end of the Analogies of Experience (in both editions), Kant contrasts his transcendental method of proof by appeal to the conditions of possible experience with the dogmatic method of proof by analysis of concepts:

> Regarding the method of proof, however, which we have used for these transcendental laws of nature, and its singular character, a comment is to be made which must also be very important as a prescription for any other attempt to prove *a priori* propositions which are intellectual but also synthetic. If we had sought to prove these analogies dogmatically, that is, from concepts, . . . the whole effort would have been entirely in vain. For one simply cannot get from one object and its existence to the existence of another or its manner of existence by mere concepts of these things, no matter how one analyzes these concepts. So what alternative remained? The possibility of experience as a cognition in which all objects ultimately must be able to be given to us, if their representation shall have objective reality for us. Now in this third [medium], the essential form of which consists in the synthetic unity of the apperception of all appearances, we found *a priori* conditions of the thoroughgoing and necessary time-determination of all existence in appearance, without which even empirical time-determination would be impossible, and we found rules of synthetic unity *a priori* by means of which we could anticipate experience. In lack of this method, and in the folly of seeking to

[13] For discussion, see Guyer (1990), Walker (1990), Friedman (1992a), and Allison (1994).

prove dogmatically synthetic propositions recommended as its principles by the experiential use of the understanding, it has thus happened that a proof has very often but always vainly been attempted of the proposition of sufficient reason.
(A216–8/B263–5, 3:184.26–185.15; cf. B810, 3:509.24–510.25)

Kant himself emphasizes that this remark is fundamental to his transcendental method. The central point of a transcendental method of proof is to establish those conditions that make self-conscious human experience possible. More specifically, those conditions include the conditions necessary for ordering our experience temporally, such that we can be "aware of our own existence as determined in time" (B275), that is, we can be aware of ourselves as being aware of some events occurring before, during, and after others. One of the points Hume too often took for granted was that we can distinguish objects and events simply on the basis of the order of our apprehension of them. Kant recognized that this ability could not be so simple because our apprehension of appearances is uniformly successive, and because the mere order in which we apprehend appearances (the mere order in which appearances occur to us) does not suffice to distinguish objective succession from objective coexistence.[14] To say this much is to suggest one main line of Kant's transcendental analysis. However, this is to leave open the link between such an analysis and the metaphysical issue of idealism and realism. What is this link?

Kant's way of analyzing the conditions necessary for the possibility of experience is idealist. He argues along the following lines. The conditions for the possibility of objective experience are necessary because we contribute those conditions to the formal structuring of our experience. Space and time are merely the forms of our sensibility, and hence necessarily the forms of our sensory intuitions, while the categories (centrally) of substance and cause are basic concepts in accord with which we must, insofar as we have human understanding, structure our experience. We can be consciously aware of nothing that fails to meet these conditions, and conversely, "in cognition *a priori* nothing can be ascribed to things except what the thinking subject brings forth from itself" (B*xxiii*, 3:15.13–14; cf. B*xviii*), a premise he reiterates in a key passage in the B Deduction (B164–5).

However, there is an alternative way of analyzing the conditions necessary for the possibility of experience. One might hold that we can know *a priori* certain things about the objects of outer experience because there are certain conditions which outer objects must meet if we are to experience them.

[14] B219, B225–6, A194/B243, B257; 3:158.25–159.2, 163.1–7, 172.36–173.16, 181.6–19; see §§2.3, 36, 65.

Only objects satisfying such conditions would be possible objects of outer experience; any objects not meeting those conditions could not be objects of our outer experience. If this were the case, these conditions could be known *a priori*. This view could allow, for example, that our intuitive capacity to receive impressions from objects other than ourselves has a "spatial" form, in the sense that we are only sensitive or receptive to stimuli from spatial objects or events. If this were so, then spatiality would be a condition for the possibility of experiencing any object other than oneself. This could be true even though having spatial characteristics, as a "formal feature" of physical objects (a feature that allows them to be ordered[15]), is an ontological condition for some range of objects (regardless of their being objects of experience). Only objects of that kind would be possible objects of our outer experience. Thus it would be conditionally necessary that any object other than oneself be spatial for one to experience it.[16] Similarly, one might argue, indeed along Kant's own lines, that our judgmental capacities are such that we are only able to develop and employ concepts of objects that are substantial and causally interactive. Consequently, we are only capable of making cognitive judgments about causally active substances. Any other kind of object would lie beyond our cognizance because we could not identify it, because we could not subsume any inert or nonsubstantial "objects" under concepts in cognitive judgments. If this were true, then only causally interactive substances would be possible objects of our outer experience, and it would likewise be conditionally necessary that any object other than oneself be a causally active substance for one to have even putative experience of it.

The retention, in this alternative, transcendental realist view, of the centrality of our human, sensory modes of intuition and their sensitivity (receptivity) solely to spatiotemporal objects and events is crucial. This preserves an important semantic and cognitive insight that undergirds Kant's insistence on the distinction between, and the interdependence of, sensibility and understanding in human knowledge of the world. One key point, recognized by Kant, is that definite descriptions do not suffice for knowledge of particulars. They do not, because putative definite descriptions are not self-identifying: they do not intrinsically reveal whether they are empty, uniquely satisfied, or ambiguous. Any reasonably specific description (*sans* token indexicals, covert or overt) may be satisfied by nothing or by several things. Specificity of description cannot guarantee particularity of reference. Whether a description

[15] A20, 4:30.2–4; B34, A86/B118, 3:50.7–9, 100.27.

[16] This view makes space a transcendentally real feature, an ontological condition, of some, but not all, objects, thereby avoiding the affront of ascribing spatiality to the deity (B71, 3:72.10–21).

is empty, definite, or ambiguous depends equally on the contents of the world. For human beings, the only way to pick out spatiotemporal particulars is by sensing them (or by sensing objects causally related to them). For us, singular cognitive reference requires singular sensory presentation. Particularity of reference requires token indexicals in some form, which can play their role in human cognition only in perceptual circumstances (which can include observational instruments). Indeed, this cognitive insufficiency of descriptions theories of reference was Kant's point of departure for the whole *Critique* (Melnick 1989, 1–5, 25–6). Dazzled by his analysis of the intellectual conditions of knowledge, Kant's commentators have too rarely attended to Kant's analysis of its sensory conditions, some of which I highlight here.[17]

Our ineliminable referential recourse to spatiotemporal specification is also reflected by recent analyses of the "character" of demonstrative terms, where such terms can only be used or understood by understanding the speaker-centered spatiotemporal reference frame they implicitly presuppose (Kaplan 1989, Perry 1979, Evans 1982, ch. 6). Conversely, for us singular cognitive reference also requires predication, the ascription to any particular we sense of at least some, at least roughly correct characteristics within some, at least roughly specified spatiotemporal region. Moreover, predication and spatiotemporal determination are interdependent (Evans 1975).

If Kant is right that we have and must use a certain set of *a priori* concepts in order to make cognitive judgments at all, and in order to be able to identify ourselves in distinction from the objects and events we experience, then this alternative view enables us to retain Kant's semantics of cognitive reference (above, §§8, 9), while dispensing with transcendental idealism.[18]

Prima facie, then, there are two ways of analyzing the transcendental conditions that make experience possible. One is the transcendental idealist way, which analyzes those conditions as "epistemic conditions" (in Allison's sense), conditions that hold of objects and events only due to the nature and functioning of the minds of the relevant cognizant subjects, because those minds generate, "impose," or "inject" those conditions into the structuring of their experience.[19] The other is a transcendental realist

[17] §§2, 3, 8, 9; cf. O'Neill (1976), Harper (1984b), Baum (1986), Melnick (1989), Hanna (2001), §4.2, especially 205–11.

[18] This study can only consider Kant's cases for the *a priori* status of the concepts of cause and substance (§§2.5, 21 end); cf. Wolff (1995, 1998, 2000).

[19] "Impose" has long been used in expounding Kant's view; Paton and Guyer use it. "Inject" is used by Buchdahl (*MPS* pt. VIII). Allison eschews these terms, but his distinction between epistemic and ontological conditions formulates the essential point; epistemic conditions obtain only due to the structure and functioning of human minds. This is how the term "generate," as used here, should be understood.

way, which analyzes those conditions as "ontological conditions" – as real, mind-independent characteristics – of objects which are also requisite for some relevant range of cognitive subjects (such as human beings) to be aware of or to know those kinds of objects.[20]

If there are these two ways of trying to analyze the transcendental conditions necessary for unified self-conscious experience, then the link between a transcendental analysis of the necessary conditions of self-conscious human experience and any particular kind of metaphysics, idealist or realist, must be a substantive link, and not directly a methodological link. I shall argue that this suggestion is substantiated by three different considerations drawn directly from Kant's first *Critique*. First, Kant's repudiation of void space suggests this kind of "transcendental realist" argument (§20). Second, the *non sequitur* involved in Kant's own inferences from transcendental conditions for possible experience to transcendental idealism in the Transcendental Analytic supports my contention that this link is substantive, not methodological (§§24, 25). Third, Kant's own analysis of "transcendental affinity," the regularity in the matter of sensation requisite for the functioning of our discursive understanding, ultimately requires a "transcendental realist" analysis of the kind just sketched. If so, then transcendental arguments and transcendental idealism cannot be linked solely on the grounds of method (§§25, 27).

20 VOID SPACE AND THE POSSIBILITY OF EXPERIENCE

Kant's repudiation of void space reinforces the point that the link between transcendental arguments and transcendental idealism is substantive, not methodological. It further suggests that Kant either was, or at least should have been, aware that methodologically, transcendental arguments need not be conjoined with transcendental idealism. In the Third Analogy of Experience, Kant argues that the space between objects cannot be utterly empty, because that would isolate objects from each other's causal influence, which would preclude our determining their coexistence (A214/B261, 3:181.37–182.10). What fills interstitial space is an omnipresent matter that serves, Kant argues, as a medium for causal interaction, including the propagation of light.[21] The three Analogies form a tightly integrated set

[20] Buchdahl (*KDR*) and Pippin (1988) overlook this possibility.

[21] A213/B260; 3:182.31–183.4. Smith's translation obscures Kant's point here. Kant speaks of "*allerwarts Materie*" (3:182.37), which Smith translates as "matter present in all parts of space." "Omnipresent matter" would be more accurate. For excellent analysis, see Edwards (2000); for a precis, see Westphal (2003b).

of mutually supporting principles (§§2.5, 36.3). If filled space is a condition for our experience of coexistence, then because the Analogies form a tightly integrated set of mutually supporting principles, filled space is a condition for our use of all three of the principles defended in the Analogies. If the principles defended in the three Analogies of Experience are mutually supporting, then filled space, as a plenum of dynamic interaction, is a condition necessary for our discriminating spatial and nonspatial changes of substances, and for discerning causal interaction among substances, all of which are jointly necessary for determining the temporal order of experience. If we were incapable of this, we would also be incapable of self-conscious experience, *per* Kant's Transcendental Deduction.

The most important point here is what Kant immediately indicates *not* to be his aim:

> By this I do not want to disprove empty space, for it may always be wherever perceptions simply do not reach, so that no empirical knowledge of co-existence occurs; but it [*sc.* empty space] is nonetheless absolutely no object for our possible experience. (A214/B261, 3:183.8–12)

Notice Kant's inference. He grants that empty space is a logical, ontological, and even a physical possibility. He only denies that we can experience empty space. Why can't we experience it? The reason he gives immediately beforehand is that empty space cannot transmit any sensory stimulation to us. This comports with his view that space itself is not an object of perception because space itself cannot stimulate our sensibility.[22] Kant's putative result is that empty space simply cannot be a source or object of experience because it is incapable of affecting our sensibility (of providing us sensations), either directly or indirectly (as a medium).

For present purposes the important point is not the soundness of Kant's argument; important here is that this is an example of the kind of "transcendental realist" inference I sketched above. One condition of our experience of the coexistence of objects defended in the Third Analogy is that space be filled. This condition holds of space and of objects in space, although it also counts as an *a priori* condition of those objects being objects of possible experience (of coexistence) because of the nature of our cognitive apparatus. In this way, those objects "reflect" the structure of our minds, in the sense that our cognitive capacities (purportedly) require filled space in order to make basic perceptual and cognitive discriminations among objects and events. However, space and objects in space do not

[22] *MAdN* 4:476.9–12; cf. A19–20/B34, B207–8; 3:50.1–2, 152.2–24.

have the relevant properties (the properties of being filled or of filling space) that satisfy that necessary condition *because of* the structure of our minds or *because of* our cognitive processing of sensory stimulation (Kant's categories of judgment and sensory intuitions). Consequently, this (putative) transcendental condition of experience does not (*contra* Allison) "reflect the cognitive structure of the mind . . . *rather than* the nature of the object." This argument involves no idealism and is entirely compatible with realism. This argument thus gives a case in point to show that the link between Kant's transcendental arguments and his transcendental idealism must be substantive, not methodological.

21 KANT: TRANSCENDENTAL PROOFS REQUIRE TRANSCENDENTAL IDEALISM

Kant himself infers from transcendental analyses of the necessary conditions of unified self-conscious experience to transcendental idealism. I document this inference in some central passages, and then argue that it is a *non sequitur*. To avoid distractions, I focus on passages that do not centrally involve issues regarding appearances, affection, or a thing in itself. The passages are from Kant's Transcendental Analytic. Surprisingly, they provide arguments for transcendental idealism. Kant usually looks to the Transcendental Aesthetic and to the First Antinomy to justify transcendental idealism.[23] However, in a note to the preface to the second edition, Kant acknowledges offering arguments for transcendental idealism in the Analytic, while in the Second Analogy he acknowledges that his arguments in the Aesthetic and Analytic are parallel.[24] We shall see that Kant makes the same kind of inference in the Analytic as in the Aesthetic, and that in neither place is it sound.

The most explicit and straightforward passage stating this inference, from transcendental conceptual conditions of experience to transcendental idealism, is in the *Prolegomena*:

[23] A490–1/B518–19, A506–7/B534–5; 3:338.21–7, 347.32–348.9.

[24] In the second edition preface Kant states, "in the treatise itself [*sc.* the *KdrV*] it [*sc.* Kant's Copernican Revolution, *i.e.*, his transcendental idealism] will be proved, apodeictically not hypothetically, from the character of our representations of space and time and from the elementary concepts of the understanding" (B*xxii* note, 3:15.34–6; tr. Smith, emended). This passage only promises to offer arguments for idealism in both sections. In the Second Analogy Kant points out that his arguments are parallel in both sections (A195–6/B240–1, 3:171.25–172.9; quoted below, p. 84).

> Even the main principle expounded throughout this section, that the universal laws of nature can be known *a priori*, leads of itself to the proposition that the highest prescription of laws of nature must lie in ourselves, that is, in our understanding; and that we must not seek the universal laws of nature in nature by means of experience, but conversely must seek nature, regarding its universal conformity to law, merely in the conditions of the possibility of experience which lie in our sensibility and understanding. For how were it otherwise possible to know these laws *a priori*, since they are not rules of analytic knowledge but are true synthetic extensions of it? Such a necessary correspondence of the principles of possible experience with the laws of the possibility of nature can only proceed from two causes: either these laws are drawn from nature by means of experience, or conversely, nature is derived from the laws of the possibility of experience in general and is utterly one with the latter's strict universal lawfulness. The first [cause] contradicts itself, for the universal laws of nature can and must be known *a priori* (that is, independently of all experience) and can and must be the foundation of all empirical use of the understanding; therefore only the second [cause] remains. (*Prol.* §36, 4:319.11–30; tr. Beck, 199–200)

This passage states as clearly as possible Kant's fundamental disjunctive syllogism: either empiricism or transcendental idealism is true; empiricism faces insuperable difficulties; therefore transcendental idealism is true.[25] The problem with this disjunctive syllogism is Kant's inadequate effort to examine and defend its major premise. In a footnote to this passage Kant recognizes that Crusius proposed a third alternative, that an infallible nondeceiving spirit originally implanted in us the most basic laws of nature. Crusius's proposal is obviously modeled on Descartes's, and Kant makes the familiar (and sound) objection, that this view lacks an adequate criterion for distinguishing genuine from deceptive principles, in part because a deceptive spirit might pose as veracious.[26]

Allison (*KTI* 110) indicates another plausible piece of Kant's effort to defend that major premise from Kant's reply to the suggestion that the categories are simply innate. Kant rejoins that such a claim is entirely *ad hoc*, because it indicates no particular grounds concerning why the categories (or, *mutatis mutandis*, our representations of space or time) would be innate, and because it sets no limits to what other representations might similarly be claimed to be innate. Furthermore, like Crusius's (Cartesian) view, this presupposes divine preordination, a providential adjusting of our cognitive faculties to the structure of the world. One implication of Kant's critique of rational theology is that no such doctrine can be known, it could only be employed heuristically, if at all.

[25] Cf. B41, A23/B37–8, A26–8/B42–4, A195–6/B240–1, A101–2, A113–14, A121–3, A125–6.
[26] *Prol.* 4:319.31–7. I argue that this objection to Descartes is sound in Westphal (1987–8).

However, neither Kant nor Allison consider the kind of realistic alternative I sketched above (§§19, 20), that our cognitive capacities such that we are only receptive, sensitive, or cognitively competent with regard to certain kinds of objects, although those objects would have the properties (whatever they may be) that enable us to experience them, regardless of whether we existed or experienced them. This realistic alternative may be obvious after Darwin, but Kant's own treatment of void space shows that he was aware of the main point of such a view (above, §20). The point, again, is that the mere possibility of this kind of analysis shows that Kant's basic argument by elimination, which rests on the principle formulated by Allison, is a *non sequitur*. That there are transcendental conditions for the possibility of experience does not, *ipso facto*, entail transcendental idealism, because those conditions as such need not be subjective in the way Kant and Allison suppose.

The passage just quoted from the *Prolegomena* is perhaps Kant's clearest statement of this type of argument, but it can be found frequently in the Transcendental Analytic. Here is an example:

> Of course it appears as if this were in contradiction to all that has been said on the procedure of the human understanding, according to which only by perception and comparison of many events repeatedly and uniformly following preceding appearances are we led to the discovery of a rule according to which certain events always follow certain appearances, and that only thereby are we enabled to form for ourselves the concept of cause. If this were so, that concept would be merely empirical, and the rule which it supplies, that everything that happens must have a cause, would be as contingent as the experience on which it is based: [that rule's] universality and necessity would then be fictitious only and devoid of any true and universal validity; it would not be *a priori*, but only founded on induction. *This case is the same as other pure representations a priori (e.g., space and time), of which we are able to extract clear concepts from experience only because we have put them first into experience, and because experience is thus rendered possible only by them.* Admittedly, the logical clarity of this representation of a rule determining the succession of events, as a concept of cause, only becomes possible when we have used it in experience; but as the condition of the synthetic unity of appearances in time, it was the foundation of all experience, and consequently preceded it *a priori*.
> (A195–6/B240–1, 3:171.25–172.9; emphasis added)[27]

In this passage, and in others like it, Kant insists that universal, necessary, *a priori* conditions for the possibility of experience can only be explained as subjective (albeit transcendental) conditions – that is, as "epistemic conditions" in Allison's sense. Kant recognizes that he is contradicting empiricist

[27] Tr. Beck, 120; emended. Cf. A101–2, A113–14, A121–3, A125–6; 4:78.20–33, 85.10–28, 90.6–91.2, 92.14–24. (These passages are quoted and discussed below, §24.)

doctrine – exactly the kind of doctrine quoted above from *En* §VIII (*supra*, p. 73), and he grants that experience is necessary to obtain "logical clarity" about the concept of cause and its application to regular series of events. In contradicting empiricist doctrine in this way, however, he presumes that transcendental idealism is the only possible defense of rationalism about concepts. This is false, for the reason suggested above. It is at least logically possible that our cognitive constitution be such that we can only experience objects which are spatiotemporal, causally interactive perceptible substances, because those are the only kinds of objects to which we are cognitively sensitive, or regarding which we are cognitively competent, due to the nature of our human cognitive capacities. This can be the case even though those objects are spatiotemporal, causally interactive substances regardless of whether we exist or experience them. These properties can be "mind-independent" real properties of those objects, or even "ontological conditions" for the possibility of that kind of object, although their satisfying such conditions is a necessary transcendental condition for the possibility of our experiencing them.

As this passage shows, Kant explains the "necessity" of transcendental conditions for the possibility of experience in terms of the nature and functioning of our cognitive apparatus ineluctably structuring our experience in accord with those conditions. On the alternative transcendental realist view I have sketched, the necessity of objects having those properties for our experience or knowledge of them is a *conditional* necessity: if objects do not have those properties, we could not experience them, because we would not be sensitive to them. Indeed, in some passages, those closest to the one quoted above from *En* §VIII (p. 73), Kant acknowledges a very similar kind of conditional necessity (see §22). So far as the sheer epistemic and metaphysical logic of a general transcendental analysis of the conditions of possible experience is concerned, this is very much a genuine possibility. Insofar as it is a genuine possibility, Kant's inference from transcendental conditions of the possibility of experience to transcendental idealism, as stated in the above passages, is a *non sequitur*. It is a *non sequitur* because Kant's disjunctive syllogism, his argument by elimination, does not consider all of the relevant alternatives.

One way of putting *part* of the result of this section is that it reinforces the (correct) idea that Kant's main arguments for transcendental idealism must be contained in the Transcendental Aesthetic and the First Antinomy.[28] The passages just quoted from the Transcendental Analytic clearly express Kant's

[28] Cf. A490–1/B518–19, A506–7/B534–5; 3:338.21–7, 347.26–348.9.

view that a transcendental analysis of the conditions of possible experience can only be developed on the basis of transcendental idealism. However, these passages do not contain a valid inference from the analysis of those logical (*i.e.*, conceptual, as opposed to sensory epistemic) conditions of possible experience to transcendental idealism. That inference is supported solely by Kant's substantive metaphysical views defended in the Transcendental Aesthetic and First Antinomy, where Kant argues that the objects of our experience must be analyzed as appearances to us rather than as things in themselves. Consequently, the passages quoted above support, at least indirectly, my contention that Kant's link between transcendental analysis of the conditions of possible experience and transcendental idealism is substantive, not methodological.

Kant's *Reflexionen* from this period, especially those written in his own copy of the first *Critique*, are replete with examples of Kant's inferring from a transcendental analysis of the logical conditions of experience, in conjunction with the doctrines of the Transcendental Aesthetic, to transcendental idealism; most succinctly:

> It must be proved, that if there were no sensible intuition *a priori*, and if this were not the form of sensibility in the subject, with which all appearances must be in accord, then
> 1. No category would have significance.
> 2. On the basis of mere categories, absolutely no synthetic propositions *a priori* would be possible.
>
> (*Selbständige Reflexionen im Handexemplar der KdrV (A)*; Refl. no. XLVII; 23:26.7–12)[29]

Kant's doctrine of sensibility, of the (alleged) intuitive conditions of knowledge, constitutes his substantive link between transcendental arguments and transcendental idealism. This link is not methodological. Hence most of Kant's statements in the Transcendental Analytic concerning the link between the transcendental conditions of possible experience and transcendental idealism mention centrally the distinction between appearances and things in themselves, or at least mention Kant's analysis of things as appearances.[30] I consider some of these passages below, including Kant's arguments for transcendental idealism in the Transcendental Aesthetic (§§24, 27). Now it is important to see that Kant's own transcendental

[29] Cf. *Selbständige Reflexionen im Handexemplar der KdrV (A)*: Refl. XVII E17–A26 (Ak 23:22.23–23.3), XVIII E17–A26 (23:23.5–10), XXXI E21–A41 (23:24.12–16), XXXII E21–A49 (23:24.18–23); *Reflexionen zur Metaphysik*: Refl. 4888 (23:20.7–15), Refl. 5637 (18:271–2; Guyer, tr., *Claims* 176), Refl. 6342 (18:667.8–17).

[30] Cf. especially B163–5, A181/B223–4; 3:126.19–127.30, 161.21–37; *Prol.* §§36, 38; 4:318.1–32, 321.27–322.17.

analysis of the formal conditions of the possibility of experience reveals one important such condition that is not and cannot be a subjective, "epistemic" condition of the kind he officially supposes.

22 TRANSCENDENTAL AFFINITY AND THE POSSIBILITY OF EXPERIENCE

22.1 *Introduction*

Although Kant (and Allison) repeatedly stress that the formal transcendental conditions of the possibility of experience or of knowledge must be subjective, that they obtain only because of the structure and functioning of our cognitive capacities, one of Kant's own analyses and doctrines in the first *Critique* in fact shows that there is a necessary, formal, yet nonsubjective, condition for the possibility of self-conscious experience. This condition is both "material," because it must be a function of the characteristics of the objects we experience (or, analogously, of the matter of our sensations), and yet it is also "formal," because it concerns the relations among the material (qualitative) characteristics of the objects we experience. Moreover, it is "formal" while being neither intuitive nor conceptual. Both of these characteristics of this condition need emphasis, because Kant allows that there is one transcendental material condition of possible experience, namely, that we have a manifold of sensation (A19/B33, 3:50). Allison (*KTI* 249) recognizes this transcendental material condition. Problems are generated for Kant (and for Allison's interpretation of Kant) because it turns out that "the transcendental affinity of the sensory manifold" is a formal condition concerning relations among the matter of sensation, and is also a material condition that must depend upon or derive from the matter of sensation (and whatever its source may be). This feature of the affinity of the sensory manifold cannot be accommodated by Kant's transcendental idealism, because his idealism and his arguments for it are based on the thesis, made most clear in the B Deduction, that sensation can provide no connection among sensations, and relations among sensations are strictly and solely the product of our understanding:

> The manifold of representations can be given in an intuition which is purely sensible, that is, nothing but receptivity; and the form of this intuition can lie *a priori* in our faculty of representation, without being anything other than the way in which the subject is affected. But the *combination* (*conjunctio*) of a manifold in general can never come to us through the senses, and cannot, therefore, be already

contained in the pure form of sensible intuition. For it is an act of spontaneity of the faculty of representation; and since this faculty, to distinguish it from sensibility, must be entitled understanding, all combination – be we conscious of it or not, be it a combination of the manifold of intuition, sensible or nonsensible, or of various concepts – is an act of the understanding. To this act the general title *synthesis* may be assigned, as indicating that we cannot represent to ourselves anything as combined in the object which we have not ourselves previously combined, and that of all representations *combination* is the only one which cannot be given through objects. Being an act of the self-activity of the subject, it cannot be effected (*verrichtet*) save by the subject itself.

(B129–30, 3:107.7–25; tr. Smith, emended)

Kant goes on to define "combination" and to insist again that it cannot be a function of the intuited manifold:

Combination is a representation of the *synthetic* unity of the manifold. Thus the representation of this unity cannot arise from the combination; instead, this representation first makes the concept of combination possible by being added to the representation of the manifold. (B130–1, 3:108.3–7)

He reiterates and amplifies his point a few pages later:

Combination does not, however, lie in the objects, and cannot be borrowed from them, and so, through perception, first taken up into the understanding. On the contrary, it is an achievement (*Verrichtung*) of the understanding alone, which itself is nothing but the faculty of combining *a priori*, and of bringing the manifold of given representations under the unity of apperception, which is the highest principle in the whole of human knowledge. (B134–5, 3:110.11–17)[31]

Kant is explicit that combination involves active mental synthesis of otherwise uncombined material, in this context, sensations and sensory intuitions. Kant's view is not an un-Critical adoption of sensory atomism; it is central to his "sensationism," his view that sensations do not, of themselves, present objects to the mind, even though sensations are the sensory basis of empirical knowledge (above, §7). On this view, the "objects" we experience and to which we refer must be (re-)constructed, where some properties of those objects derive from constituent sensations and others derive from synthetic mental activities. Sensations as such do not suffice for self-conscious reference or representation; their role in

[31] Tr. Smith; emended. These passages come from the B edition. Kant says very similar things in the A Deduction, while expounding his doctrine of the threefold synthesis, *e.g.*, A99, 4:77.19–23. The view that relations are ideal was common in the Modern period. This helps explain why Kant would have held these premises, but does not help to justify them.

reference and representation is effected by intellectual synthesis, that is, "combination."[32]

Kant's account of perceptual synthesis is his response to what is now called the "binding problem" in neurophysiology of perception: in the midst of our plethora of sensations, how do we identify any one object or event as the source of several sensations, both within any one sensory mode, and across sensory modes (Roskies 1999)? Though this problem lies at the core of the Modern "new way of ideas" and recent "sense-data" theories, Hume, Kant (and Hegel) are the only epistemologists who devoted serious attention to it.[33] Note that this general problem arises at two levels, both of which Kant addresses. It arises at the sensory level of perceiving any one object amidst our manifold sensations of it, and it arises again at the conceptual level of expressly identifying (and thereby knowing) any one object by recognizing *its* plurality of manifest characteristics. Kant addresses the sensory issue with his doctrine of perceptual synthesis, and the conceptual issue with his account of cognitive judgment (recognition in a concept). The concept of "substance," schematized to hold of spatiotemporal phenomena, serves as our concept of "perceptible thing," which is necessary for integrating sensory intuitions into our perceiving any one object, and for integrating those of its perceptible characteristics we recognize within our cognitive judgment that this object has those characteristics. This concept must be *a priori* because without it we could neither identify objects or events we experience, nor, on that basis, either define or acquire any empirical concepts.

Granting that combination is a result of intellectual synthesis, whereby "combination" would designate the effected complex of elements (whether sensory or conceptual), *combinability* must be a function of the elements thus combined. To fill either an experiential or a cognitive role, sensations generally must carry some primitive level of information about sensed objects, if that material is to play a role in our experience or knowledge of those objects. This is central to sensationism, also in Kant's version of it; this is the primitive intensionality of Kantian sensations mentioned earlier (§7). Only if sensations have some kinds of characteristics, which allow them to be combined in some ways and not in others, can sensations provide the materials of (even putative) sensory experience, or can they at all guide our empirical judgments (as we identify objects by identifying

[32] On Kant's account of "synthesis," see Kitcher (1990), Howell (1992), Brook (1994).
[33] Regarding Hegel, see Ziemke (1994), Westphal (1998a).

their perceived characteristics). Though Kant says too little about this topic, this idea is sound.[34]

The problem is that this idea leads to a realism the likes of which Kant sought to avoid, for this idea ultimately entails that the role of intellectual synthesis is only to *re*construct the order of nature that produces our sensations. Fundamental to Kant's idealism is that the mind generates the formal structures of the empirical world we experience, including both the intuitive structures of space and time and the conceptual structures expressed by the categories. Kant even calls these the basic laws of nature, which are prescribed by our understanding.[35] I submit that Kant cannot have it both ways: if sensations are sufficiently structured to guide empirical judgments, then intellectual synthesis can only *re*construct, but cannot construct *tout court*, the structure and order of nature; conversely, if intellectual synthesis alone constructs the structure of nature, it must construct its particular order and content as well. Transcendental idealism is an unstable halfway house between realism and subjective idealism.

Kant says so little about the structure and role of sensations in empirical judgment (Sellars 1968, 1–30; Pippin 1982, 46–53) that it is very difficult to specify this suspicion in sufficient, convincing detail. However, he says enough about the constitutive role of the affinity of the sensory manifold that a similar result can be reached. These two themes are related. So far as sensations contribute to enabling us to designate and to characterize particular objects, sensations must have some kind of structure that enables them to contribute to, or to play roles analogous to, denotation and connotation; otherwise they could not guide our locating objects or events and experiencing them as having various sensed characteristics, which we expressly ascribe to them in cognitive judgments (whether accurately or inaccurately). Since perceiving any *one* object involves synthesizing a plurality of sensations into an intuition or a percept of that object (Milmed 1969, Guyer 1989), whatever plays the connotative role – the sensing of some quality or other – in each such sensation must be associable with those of other sensations involved in that intuition or (analogously)

[34] For a good discussion of the problem, see Sellars (1968, ch. 1).

[35] *E.g.*, B159–60, B163–5; 3:124.19–26, 126.19–127.30; A125–8, 4:92–3. In one of these passages, Kant goes so far as to say that appearances, "as mere representations stand under absolutely no laws of connection (*Verknüpfung*) but those which the connecting power [*i.e.*, understanding] prescribes" (B164, 3:127.8–10). This statement (there are other examples) makes it extremely hard to understand how, within Kant's transcendental idealism, sensations (which provide the most basic material for generating appearances) can provide any guidance to empirical judgment, or even present us with distinct sensory qualities. Later in this passage Kant claims that particular laws of nature depend upon and are given by empirically determinate appearances.

appearance (roughly, Kant's version of a percept). *This* associability of the connotative (or qualitative) components of sensations *is* their affinity, at its most basic, constitutive level. At this basic constitutive level, the transcendental affinity of the sensory manifold is germane to both editions of Kant's Deduction.

Transcendental affinity of the sensory manifold is a "formal" condition for the possibility of experience, because it allows objects to be ordered. However, it is neither a conceptual nor an intuitive formal condition. Instead, it is a material condition of the possibility of self-conscious experience, because it directly concerns the characteristics instantiated by a manifold of sensations or (analogously) sensory intuitions. I contend that, on Kant's own principles, the transcendental affinity of the manifold of sensory intuition can only be *re*constructed, but not constructed, by intellectual syntheses of the understanding. Kant explicitly claims and argues otherwise. However, his arguments for this claim mistakenly conflate the *ratio cognoscendi* of the transcendental affinity of the sensory manifold (which lies in the transcendental unity of apperception) with its *ratio essendi* (which must lie in source of sensations). Showing this requires making some basic distinctions among the regulative and constitutive issues Kant addresses under the heading of "affinity."

Kant's views on "affinity" cover a range of issues, including the "affinity of concepts," the "affinity of appearances," the "affinity of laws," the "transcendental affinity of the sensory manifold," and the "logical principle of genera." Some of these kinds of affinity are only subjectively necessary, as principles of reflective judgment employed in systematizing our experience of nature. These include the affinity of concepts, the affinity of specific laws, and most of the scope of the law of genera.[36] The distinction between the kinds of affinity relevant to the regulative employment of ideas and those relevant to the constitutive employment of categories is this. The regulative employment of ideas to systematize our experience presupposes that we experience objects and events, and that we have and use both the empirical and categorial concepts necessary to identify them. The issues of reflective judgment concern our systematizing the concepts of and natural laws about these objects, once we have identified them. On the other hand, the constitutive use of Categories in knowing particular objects concerns (among other things) our identifying objects and events at all, which involves our having and using whatever *a priori* and empirical concepts

[36] Affinity of concepts: A657–8/B685–6; affinity of specific laws: *KdU* 1. Einl., Ak 20:209.20–210.10; law of genera: A651–7/B679–85.

are necessary for identifying those objects or events. As Kant rightly points out, our using those concepts, and indeed our having the relevant empirical concepts, requires that we find a certain amount of regularity among the objects and events we sense. Failing such regularity, we would have no experience at all. This *de facto* regularity is a necessary transcendental condition for the very possibility of self-conscious human experience. However, this condition is both "material," because it can only derive from the objects we experience, or analogously from the matter of sensation (Kant makes both claims), and "formal," because it concerns a condition that allows objects to be ordered – though it is neither an intuitive nor a conceptual condition. The basis of this regularity Kant calls "the principle of affinity." I shall use this brief designation as Kant does, to identify the principle of the transcendental affinity of the sensory manifold. With this sketch in mind, consider now Kant's discussions of the topic.

22.2 *Kant's "Law of Genera"*

Kant explains the transcendental point of "the law of genera" in the appendix to the Transcendental Dialectic (contained in both editions of the first *Critique*). We must encounter *kinds* of things in experience or else we could neither generate general empirical concepts nor use them along with categorial concepts to identify things. The relevance of the transcendental Law of Genera to the issue of the regularity or heterogeneity of the objects of experience makes plain the relevance of this law to the issue and principle of affinity. Kant contends:

> If among the appearances which present themselves to us, there were so great a variety – I do not say in form, for in that respect appearances might resemble one another; but in *content*, that is, in the diversity of existing entities – that even the acutest human understanding could never by comparison of them detect the slightest similarity (a possibility which is quite conceivable), the logical law of genera would absolutely not obtain, and there would not even be the concept of a genus, or any other universal concept, or indeed any understanding at all [*sic*], since it has to do solely with such concepts. If, therefore, the logical principle of genera is to be applied to nature (by which I here understand only those objects which are given to us), it presupposes a transcendental principle [of genera]. In accordance with this latter principle, homogeneity is necessarily presupposed in the manifold of possible experience (although we cannot determine *a priori* its degree); for without homogeneity, no empirical concepts, and hence no experience, would be possible. (A653–4/B681–2; 3:433.14–29; tr. Smith, emended)

The possibility Kant here contemplates, that existing things might be so diverse that no human understanding could discover any similarities among them, is precisely the circumstance Hume contemplated in *En* §VIII (quoted above, p. 73). Call this condition "transcendental chaos." Kant identifies the relevant kind of similarity as a matter of the content ("*dem Inhalte*"), rather than the form, of appearances. Kant thus indicates that the issue of the regularity of the objects of (or in) experience is a material condition. The fact that it concerns *relations* among the characteristics of the contents of experience indicates that this is also a "formal" condition, though it is neither an intuitive nor a conceptual condition. The consequences of the lack of such similarities are of transcendental import: absent such recognizable regularities, we would have no empirical concepts, indeed no (functioning) *understanding*, and hence no experience. Kant does not speak here of the "principle of affinity" mentioned in the passage quoted earlier.[37] Instead he speaks of a "logical [*i.e.*, cognitive] principle of genera," which he claims presupposes a "transcendental principle of genera." While such a principle is presupposed by the reflective use of rational principles in organizing our experience (the topic of much of the Dialectic of the first *Critique* and most of the third *Critique*), this transcendental principle concerns the use (or "application") of the Logical Law of Genera to comprehend nature – in the broad sense of "objects given to us" – and it also concerns the very possibility of self-conscious human experience. Consequently, this principle is also a constitutive principle of experience directly relevant to the transcendental analysis of the necessary conditions of possible experience. Below some minimum degree of regularity among the objects of experience, there can be no recognition of objects or regularities; hence there could be neither empirical concepts nor *any* employment of the understanding; hence there could be no human experience. (Above that minimum, there is then a reflective or regulative issue concerning how much those recognized regularities can be systematized.) One very important point about this transcendental principle, which Kant also states in this passage, is that there is no way to determine *a priori* the extent of the similarities to be found among appearances that is necessary for self-conscious experience (apperception). That extent remains an entirely contingent, at best empirical issue. What can be known *a priori* is that there must be some recognizable

[37] A766–7/B794–5, 3:500.2–25; above, p. 75.

similarities, enough to stimulate and enable our understanding to fashion and use discursive concepts in cognitive judgments.[38]

Kant's argument about this "Logical Law of Genera" closely parallels his argument about the transcendental affinity of the sensory manifold: both concern the recognizable orderliness of what we sense, and the constitutive necessity of that orderliness for the very functioning of our understanding. This functioning is required for any synthetic unity of apperception, and thus is required for any analytic unity of apperception, that is, for the occurrence of any human "I think." There is, however, a difference between Kant's two cases: the Logical Law of Genera concerns *objects*, while Kant usually states transcendental affinity of the sensory manifold in terms of the contents of sensations (but see below, §22.4). Plainly, if the Logical Law of Genera is satisfied, so is the transcendental affinity of the sensory manifold. However, perhaps there could be transcendental affinity among the sensory manifold only to the extent that there were humanly detectable regularities and variety among sensory contents, without our being able to identify objects in nature. To this extent, the Logical Law of Genera is a stronger principle. The extent to which the satisfaction of these two principles could in fact diverge is difficult to determine. Kant claims that failure to satisfy either principle has the same consequence: human understanding simply could not function. In that case, there could be no synthetic unity of apperception, and so no analytic unity of apperception, and so no self-consciousness of the form expressed by "I think" (B131–9). The difficult point is to determine whether human understanding could function while only using the categories of quality and quantity; only judgments using these two categories could potentially be made in circumstances that satisfied the transcendental affinity of the sensory manifold, though not the Logical Law of Genera.

Resolving this issue would require minute investigation of Kant's Transcendental Deduction, which is not feasible here. Two central points suffice here. First, both principles, the transcendental affinity of the sensory manifold and the Logical Law of Genera, provide transcendental proofs of mental content externalism, though of slightly different kinds. In either case, this is a major anti-Cartesian result. Second, Kant's anti-skeptical transcendental proof of realism *sans phrase* need not appeal to the bare possibility of the analytic unity of apperception. It can appeal to the perhaps stronger, certainly more explicit premise of Kant's Refutation of

[38] Peirce's abductive arguments for "generals" all pertain to the *regulative* issues just identified; such arguments can only be developed or propounded by self-conscious inquirers.

Idealism, that we are aware of our existence as empirically determined in time (B275).

22.3 *The Law of Genera and the possibility of understanding*

Another passage from the appendix to the Transcendental Dialectic reinforces these points. A few pages after the passage just quoted, when discussing the rational aim of completing both the unification of diverse classifications and the division of the most specific subclassifications in any domain, Kant remarks on how this aim is based in the very nature of understanding (not reason):

> For only under the presupposition of diversity in nature, just as it is only under the condition, that its objects have homogeneity among themselves, do we have understanding, because precisely the diversity of that which can be comprehended under a concept constitutes the use of that concept, and constitutes the exercise of the understanding. (A657/B685, 3:435.21–6)

Our discursive understanding functions by using concepts that subsume similar features of various objects. Were we not confronted in experience with both recognizable diversity and recognizable similarity, our understanding would not act, it would lack occasion, stimulus, or material to do anything. Consequently, without both recognizable diversity and recognizable similarity among appearances, self-conscious human experience would not be possible. Hence the transcendental principle of genera is directly relevant to the constitutive issues of the transcendental analysis of the conditions that constitute the possibility of our self-conscious experience.

Note that Kant appeals (in all the passages quoted in this and the next section) to the radically counterfactual circumstance of there being no order in the contents of would-be empirical experience that we can identify (*i.e.*, transcendental chaos), in order to get us to recognize that we do indeed require some minimal degree of regularity and variety in order to make cognitive judgments at all, and so to be aware of objects (or events), and to be aware of ourselves in being aware of those objects. Understanding and assessing Kant's principle of affinity requires us to reflect epistemically on our own cognitive capacities and activities. This is precisely the kind of argumentative strategy we should expect, if indeed epistemic reflection plays the central role in Kant's *Critique of Pure Reason* stressed in chapter 1. The

point of Kant's example will be lost if we think instead of defending Kant's claim against the evil deceiver (see below, §63; cf. Westphal 1998c, §4).[39]

The two passages just quoted from the appendix to the Transcendental Dialectic occur about one hundred pages before the passage from the Doctrine of Method (quoted at the outset), which speaks of the "principle of affinity."[40] However, I submit that the issues addressed by these two principles, the "transcendental law of genera" and the "principle of affinity," converge when they are taken in connection with the very possibility of self-conscious human experience, that the role of these two principles is very similar, and that Kant's explanations of their importance are identical. If Kant omitted most of his discussion of affinity from the B Deduction, it cannot be because the doctrine is irrelevant to the aims and doctrines of Kant's transcendental analysis of the necessary conditions of possible experience.[41]

22.4 *Appearances and the formal requirements of the understanding*

Two facts about the Transcendental Analytic are significant here. First, the relevance of the principle of affinity to the transcendental analysis of the conditions necessary for the very possibility of human experience is made quite plain, even if the principle goes unnamed, in a striking passage from the first section of the Transcendental Deduction (in both editions). Kant states:

> That objects [*sic*] of sensible intuition must be in accord with the formal conditions of sensibility which lie *a priori* in the mind is evident, because otherwise they would not be objects for us; but that they must in addition be in accord with the conditions which the understanding requires for the synthetic unity of thought, is a conclusion which is by no means obvious. For appearances could very well be so constituted that the understanding should not find them to accord with the conditions of its unity, and everything might be in such confusion that, *e.g.*, in

[39] Readers may suspect a tension here between the kind of indirect proof inherently involved in arguing by counterexamples and Kant's repudiation of indirect proof in his Transcendental Doctrine of Method (A789–91/B817–19). The tension is only apparent. Kant argues directly from the principles of his transcendental analyses, but to establish those principles he typically argues by indirect proof on the basis of telling, wildly counterfactual examples, such as this. In the *Methodenlehre*, Kant cautions against indirect proof of any kind of philosophical "hypothesis," while affirming the validity of *modus tollens*. In the second edition preface, he insists that his transcendental analyses do not rely on hypotheses (B*xxii*, note).

[40] A766–7/B794–5, 3:500.2–25; quoted above, p. 75.

[41] I say that these two principles converge when taken in connection with the necessary conditions of possible experience. The "logical law of genera" and its transcendental counterpart admit a wide range of degree to which they are instantiated, a range that becomes a regulative issue once we have experience, and the interest of reason turns to systematizing that experience and its objects.

the series of appearances nothing would present itself which would yield a rule of synthesis, and thus would correspond to the concept of cause and effect; so that this concept would be altogether empty, null, and without significance. But since intuition does not at all need the functions of thought, appearances would nonetheless present objects to our intuition.

(A90–1/B122–3, 3:103.4–17; tr. Smith, emended)

The counterfactual case Kant here contemplates is "transcendental chaos," just as Hume did (*En* §VIII): whatever may be the conceptual and intuitive conditions required for synthetic functioning of the understanding, appearances might be so irregular and confused that we could detect no regularities among them. In such a case the concept of causality would be "completely empty, null, and without significance." In that case, once again, no self-conscious human experience would be possible. This is the constitutive issue to which the principle of affinity ministers.(Note also, in view of the end of §22.2, that Kant here formulates transcendental affinity of the sensory manifold in terms of the "objects" of intuition; this brings Kant's two discussions *very* close together.)

In this passage Kant again suggests that the necessity involved in this condition of experience is conditional: it is possible for appearances to be such that they not accord with the conditions required by our understanding for integrating our experience. Conversely, if we are self-conscious, if we have integrated experience, then the objects of sensible intuition must be regular enough to admit of synthesis. That is tantamount to saying, if we are self-conscious, then the objects of sensation display affinity. This is a conditional necessity.

In this passage Kant states that the conclusion, that there must be (what he elsewhere calls) affinity, is not at all obvious. In the subsequent paragraph, however, he does not address the issue of affinity itself, but instead argues that the concept of causality cannot be derived on empiricist principles, because empirical evidence cannot establish the necessity or universality inherent in a causal law (A91–2/B123–4, 3:103.18–104.2). This is to say, he does not proceed to offer insight into the "difficult conclusion" stated in the preceding paragraph (quoted just above). In the A Deduction, Kant returned to both the issue and the principle of affinity by name. In the B Deduction he did not. However, the B Deduction neither replaces that principle nor ministers to the issues it addresses. I submit that I have provided ample evidence to show that this issue is altogether germane to a complete transcendental analysis of the necessary conditions of unified self-conscious experience. Consequently, Kant's retention in the second edition Doctrine of Method of the passage mentioning Hume and the

principle of affinity, and his retention of the related passages from the appendix to the Dialectic and from the opening passages of the Transcendental Deduction, all of which have been quoted and analyzed above, cannot be dismissed as a mere lapse, because the issue is of genuine transcendental significance and so is central to Kant's project in the *Critique of Pure Reason*. This amply justifies examining Kant's treatment of the principle of affinity in the A Deduction.

22.5 *Why Kant may have omitted "affinity" from the B Deduction*

Before turning to Kant's discussion of affinity in the A Deduction (§23), it is worth considering some reasons why Kant may have omitted those passages from the B Deduction. He may have realized it did not fit into his architectonic (see below, §22.6), or did not fit well with his transcendental idealism. Though true, Kant did retain four important passages bearing on the issue and the principle of affinity in the B edition (above, §§24.1–24.4). Moreover, Kant's basic arguments for why affinity is an *a priori* necessary, transcendental condition of self-conscious human experience are sound. Kant may have omitted those passages from the B Deduction because he realized that they did not belong there, since the principle of affinity does not concern the forms of intuition, the categories, or any of the principles based on them (see §22.6). If this were Kant's reason, then it would be more fitting that he do what he did, namely, to mention the issue in the introductory section of the Deduction and to retain passages concerning affinity in the appendix to the Dialectic and in the Doctrine of Method. A third reason Kant may have omitted the discussion of affinity from the B Deduction is that the first edition considers it in connection with Kant's doctrine of the threefold synthesis. Kant may have suppressed this doctrine for either of two reasons. One reason is purely expository; the A Deduction convinced one important reviewer that Kant's idealism was an elevated version of Berkeley's idealism (Anon. 1782; Förster 1987, 542f.; Beiser 2002, 92–4, 106–13). The other reason is that Kant may have decided that his transcendental analysis simply did not require the doctrine of threefold synthesis. This latter suggestion is implausible, in view of the prominent role given to "synthesis" in the B Deduction.[42]

[42] Cf. *e.g.*, §15 B130–1, B163–5; 3:107.5–108.15, 126.19–127.30.

My main point in reviewing these possible reasons for omitting passages relevant to affinity from the B Deduction is not to adjudicate among them.[43] In the A Deduction, Kant treats affinity in the context of the doctrine of the threefold synthesis because the principle of affinity highlights dramatically the issues addressed by that doctrine. In one important systematic regard, the principle of affinity is independent of the central doctrines of the Deduction of the Categories because it is not a conceptual condition of the possibility of experience. I shall argue, however, that in an even more important substantive regard, the principle of affinity is crucial to the central *issues* of the Deduction because the conceptual conditions Kant expressly analyzes in the Deduction cannot be fulfilled, they cannot be implemented, they cannot serve to ground the very possibility of self-conscious human experience unless certain *material* conditions of cognitive judgment are also satisfied.[44] The most general and important such condition is the principle of affinity. Before considering these issues, it is important to note that Kant's transcendental analysis of the necessary *a priori* conditions of self-conscious human experience must be complete (§22.6) and that the principle of the transcendental affinity of the sensory manifold meets the formality requirements of Kant's transcendental analysis (§22.7).

22.6 *Kant's transcendental analysis must be complete*

An important fact about the Transcendental Analytic is that it is appropriate that Kant address the concept of causality, rather than the principle of affinity, in the paragraph following the previous quotation (above, §22.4). That paragraph is Kant's introduction of and transition to the "Transcendental Deduction of the Pure Categories of the Understanding." The concept of causality is central to the aims of the Transcendental Deduction in an important way in which the principle of affinity is not. The Transcendental Deduction is supposed to be a deduction of the Categories of the Understanding, and similarly, the Analytic of Principles is supposed to explain and justify our employment of cognitive principles formulated in terms of those Categories. The principle of affinity is not formulated in terms of the Categories; that is part of Kant's point in

[43] For further suggestions about why Kant may have omitted "affinity" from the B Deduction, see Smith (1923, 257), and Beck (1981, 457).

[44] For discussion of the broader roles of transcendental affinity within the Deduction, see Paton (1936, 1:366–71, 395, 445–50, 480–6).

indicating that it concerns the content, not the form, of experience.[45] Consequently, the principle of affinity should not be a central topic, much less an object of proof, in the Transcendental Deduction or the Analytic of Principles.

Where, then, should the principle of affinity be proven? Must it be proven? The answer to this second question is affirmative, because Kant sought the necessary conditions that suffice for the possibility of self-conscious human experience. Kant states that transcendental philosophy

> must . . . expound, in universal but sufficient marks, the conditions under which objects can be given in accordance with those [pure] concepts [of the understanding]; failing which those concepts would be without any content, and thus would be mere logical forms and not pure concepts of the understanding.
>
> (A136/B175, 3:133.14–18)

Significantly, Kant also alludes to this completeness in the very passage from the first section of the Transcendental Deduction quoted above (§22.4), where he speaks of the "conditions which the understanding requires for the synthetic unity of thought" (A90/B123, 3:103.7–8). Because the principle of affinity is a necessary condition for the possibility of self-conscious human experience, it is not merely a proper, but an essential element in a complete and adequate transcendental analysis of such conditions. Where, then, should it be proven? As noted, it does not fit within the scope of any of the main parts of the Transcendental Analytic. This is because it is a material, not a conceptual, transcendental condition. Kant assigns no other place in his architectonic (or, minimally, his table of contents) to such a material transcendental principle. This is one main point of this chapter: Kant's transcendental idealist account of the transcendental conditions of possible experience is designed to account for those formal conditions that we (plausibly) could be said to contribute to the structuring of our experience, the intuitive and conceptual conditions. Since Kant designed his transcendental analysis of the conditions of possible experience with his transcendental idealism clearly in mind, he did not leave room in his plan for any transcendental condition of possible experience that is both material and formal, though neither intuitive nor conceptual, such as the principle of affinity. This is an important place where Kant's official aims, methods, and architectonic are not in step with the substance of his actual transcendental analysis and proof. The fact that there is such a transcendental condition of the possibility of experience, I

[45] A653–4/B681–2, 3:433.14–29; quoted above, p. 92.

argue, ultimately calls Kant's justification of transcendental idealism itself into serious question (below, §§25, 27, 29).[46]

22.7 *Transcendental affinity meets Kant's formality requirement*

Having said that Kant's principle of affinity does not fit into his architectonic, it is important to note that analyzing this principle does not require violating the broad formality requirements built into Kant's transcendental enterprise. Two key elements of those requirements are important here. In the third chapter of the Analytic of Principles, Kant claims that "the understanding can never accomplish more *a priori* than to anticipate the form of possible experience" (A246/B303, 3:207.12–14). In the Doctrine of Method, Kant claims that transcendental analysis of the conditions of possible experience is to abstract from "any objects which may be given" (A845/B873, 3:546.16–21). Analyzing the principle of affinity does not require considering any given objects or appearances of objects; nor does it require anticipating any particular content of experience. It merely requires recognizing that any set of objects of possible experience, or analogously any range of matter of sensation we can synthesize, must have some degree of similarity and variety, noticeable by us, in order for us to experience them. To that extent (at least), the principle of affinity is a "formal" requirement, even if it is not the same kind of intuitive or conceptual requirement Kant analyzes in the Transcendental Aesthetic or Transcendental Analytic. The principle of affinity specifies a constraint on the irregularity of the possible contents of experience, namely, the content of experience cannot be so irregular as to elude altogether our recognition of similarities, whereby it would afford no occasion or stimulus for using concepts to identify the objects we happen to encounter. To this extent, as I shall argue further below, the principle of affinity does nevertheless concern the content or the objects of possible experience (§23).

23 TRANSCENDENTAL AFFINITY IN THE A DEDUCTION

23.1 *Introduction*

Kant discusses transcendental affinity, if not always by name, in four passages in the A Deduction. Two of these come from the second section

[46] These conclusions will be strongly resisted by orthodox Kantians. This same issue is analyzed, and the same kind of conclusion is drawn also by Edwards (2000), though on entirely different grounds. That our conclusions may be unwelcome is not, as such, a philosophical objection.

of the Deduction, "Of the *a priori* Grounds of the Possibility of Experience." The first is in connection with the reproductive synthesis of imagination (A100–1). The second is in connection with the synthesis of conceptual recognition (A107–8). The third is in the context of Kant's preliminary explanation of the possibility of categories as cognitions *a priori* (A113–14). The fourth passage occurs in the third section of the Deduction, on the relation between understanding and objects in general (A121–6). After considering each passage, I consider Kant's repeated effort to explain the principle of affinity as a subjective, transcendentally ideal principle (§25); I then criticize those efforts (§27). This requires extensive quotation, but we must consider Kant's own reasoning on this topic, and we must reflect epistemically in order to understand and assess the merits of his case, especially for his basic point that we human beings could not be self-conscious in a world of transcendental chaos.[47]

23.2 *Passage* 1

The first passage in which Kant discusses transcendental affinity omits this designation. However, the issue is evidently the same, and evidently takes the passage from *En* §VIII quoted above (p. 73) as its point of departure. The passage occurs in the second subsection, "Of the Synthesis of Reproduction in Imagination." It begins by acknowledging, with Hume, that laws of association among representations are empirical, and that such psychological association only occurs when there is in fact a regularity found in experience. Kant supports this point by sketching the counterfactual case of irregular experience in a way strongly reminiscent of the passage quoted above from Hume. Kant's first example is the stability of cinnabar:

> It is of course a merely empirical law, according to which representations, which have often followed or accompanied one another, ultimately become associated and are thus placed in a connection, according to which, even without the presence of the object, one of these representations brings about a transition of the mind to the other, according to a constant rule. But this law of reproduction presupposes that *appearances themselves are actually subject to such a rule*, and that in the manifold of their representations a certain concurrence or series occurs according to a certain rule; for without this our empirical imagination would never receive anything that accords with its capacities, and thus would remain buried within the mind as a dead and to us unknown capacity. If cinnabar were now red, now black, once light, once

[47] Kant's basic point is reconstructed with great subtlety (and without Kant's transcendental logic) by Will (1997, ch. 1); for discussion, see Westphal (1998b).

heavy; if a person were transformed now into this, now into that animal form; if on the longest day the country were now covered with fruit, and then again with ice and snow; then my empirical imagination would never have the occasion, upon the representation of a red color, to think of heavy cinnabar; or if a certain word were referred once to this, once to that thing, or if the same thing were now called this, now that, without there being in this a certain governing rule, to which appearances of themselves were already subject, then no empirical synthesis of reproduction could occur. There must therefore be something, which itself makes this reproduction of appearances possible in such a way that it is the *a priori* ground of its necessary synthetic unity. (A100–1, 4:77.33–78.22; emphasis added)

In this passage Kant acknowledges that, without a certain amount of regularity in our experience, our empirical imagination would never be stimulated to function, and so would be as good as nonexistent. This directly parallels Kant's remark quoted earlier, that without a certain amount of regularity among appearances, our very understanding would not function and would be as good as nonexistent.[48] The reason for this similarity is not far to seek. On Kant's view, our "empirical imagination" (mentioned in the preceding quotation) is responsible for our retaining any temporally extended object, event, or series of representations as an object of consciousness, and such retention is necessary in order to recognize that object, event, or series of representations by subsuming it under a concept[49] – including the *a priori* categorial concepts (especially cause and substance) by which we identify the object or event in question. Hence this regularity among the contents of our sensations does indeed concern a properly *transcendental* issue.

23.3 *Passage* 2

This connection between the functions of empirical imagination and of the understanding is brought out in part in the next subsection ("3. Of the Synthesis of Recognition Under Concepts"), in which Kant makes plain that the transcendental unity of consciousness presupposes a necessary unity of the synthesis of all appearances. This unity of appearances is necessary for their "reproducibility," and that is a function of our empirical imagination, mentioned previously. Kant explains:

For this [transcendental] unity of consciousness would be impossible, if in the cognition of the manifold the mind could not become conscious of the identity of function, through which it connects them synthetically in one cognition. Therefore

[48] A766–7/B794–5, 3:500.2–25; above, p. 75.

[49] A98–103f., 4:77.1–79.27f. This, in briefest compass, is the point of Kant's doctrine of the threefold synthesis, from which the preceding quotation is taken. Cf. Strawson (1971, 1979), Milmed (1969).

the original and necessary consciousness of the identity of itself is at the same time a consciousness of an equally necessary unity of synthesis of all appearances according to concepts, that is, according to rules, which not only makes them necessarily reproducible, but also thereby determines an object for their intuition, that is, a concept of something in which they are necessarily connected: for the mind could not possibly think, indeed *a priori*, of its identity in the manifold of its representations, if it did not have the identity of its act before its eyes, which subjects all synthesis of apprehension (which is empirical) to a transcendental unity, and first makes possible its connection according to rules *a priori*.

(A108, 4:82.10–24; tr. G&W, emended)

Kant does not speak in this passage of "affinity" or of "genera," but he does speak of "rules" requisite for the reproducibility of representations, and the role of that reproducibility in determining objects for our representations. The connection between these topics and the issue of affinity is straightforward. If, for example, cinnabar was not always (or at least very frequently) red and heavy, none of our representations of cinnabar would be reproducible, in which case we could not ever identify cinnabar as an object of any of our representations.[50] That kind of regularity of appearances is necessary for appearances to afford any kind of synthetic and objective unity. That kind of regularity *is* affinity.

23.4 *Passage* 3

Kant makes the connection between such synthetic unity of appearances and affinity quite explicit in the next subsection of the A Deduction ("4. Preliminary Explanation of the Possibility of Categories as Cognitions a priori"). There he states directly:

But that empirical rule of *association*, which one must postulate throughout when one says that everything in the series of events is so subject to rule that nothing ever happens, before which something does not precede it, upon which it always follows – upon what, I ask, does this rule, as a law of nature, rest? How is this association itself possible? The ground of the possibility of the association of the manifold, *so far as it lies in the object*, is the *affinity* of the manifold.

(A112–13, 4:85.3–10; tr. Smith, emended, main emphasis added)

This passage does not explain the ground of the possibility of the association of the sensory manifold, but it does designate it as "the affinity of the

[50] I am not convinced that Kant can defend the strict universality of these regularities. The possible counterexamples concern slow or subtle changes in the properties of things, or in the group of properties any one kind of thing has. This may be another way in which the extent of affinity we experience is a matter of degree.

manifold." The issue of the associability of the sensory manifold is obviously the same as previously discussed. This justifies my interpreting those earlier passages in terms of affinity, despite Kant's not yet having introduced the term itself in those (immediately preceding) passages. Furthermore, Kant indicates that this principle of associability lies "in the object." This indication is very important later (§25). The main point to be taken from this passage here is that affinity concerns resemblances within the "manifold," that is, among sensations or appearances or among objects which appear.

23.5 *Passage* 4

The various strands discerned in the preceding passages are all brought together in Kant's most explicit discussion of affinity, contained in the third section of the A Deduction, the last of the four relevant passages:

> Now if this unity of association did not also have an objective ground, so that it would be impossible for appearances to be apprehended by the imagination otherwise than under the condition of a possible synthetic unity of this apprehension, it would be entirely accidental that appearances should fit into a connection in human knowledge. For even though we should have the capacity to associate perceptions, it would remain entirely undetermined and accidental *whether they themselves were associable*; and in case they were not associable, then a multitude of perceptions, and indeed an entire sensibility would be possible, in which much empirical consciousness would be found in my mind, but separated, and without belonging to *one* consciousness of myself, which, however, is impossible. For only because I ascribe all perceptions to one consciousness (original apperception) can I say of all perceptions that I am conscious of them. There must, therefore, be an objective ground (that is, one that can be comprehended *a priori*, antecedent to all empirical laws of the imagination) upon which rests the possibility, indeed, the necessity, of a law that extends to all appearances – a ground, namely, for regarding all appearances as data of the senses that must be associable in themselves and subject to universal rules of a thoroughgoing connection in their reproduction. *This objective ground of all association of appearances I entitle their affinity.* It is to be found nowhere else than in the principle of the unity of apperception, in respect of all cognitions which should belong to me. According to this principle all appearances, without exception, must so enter the mind or be apprehended, that they conform to the unity of apperception. Without synthetic unity in their connection, which is thus objectively necessary, this would be impossible.
>
> The objective unity of all (empirical) consciousness in one consciousness, that of original apperception, is thus the necessary condition of all possible perception; and the *affinity* of all appearances, near or remote, is a necessary consequence of a synthesis in imagination which is grounded *a priori* on rules.
>
> (A121–3, 4:90.6–91.2; tr. Smith, emended, main emphases added)

In this passage Kant again stresses that a complete sensibility and understanding, capable of associating perceptions, does not of itself determine whether any sensations, appearances, or perceptions it has are in fact associable. (The same point holds in each of these three cases.) If they were not, there may be fleeting episodes of empirical consciousness (*i.e.*, random sensations), but there could be no unified, and hence no self-conscious, experience. In part this would be because those irregular perceptions would admit no reproductive synthesis; they would afford no psychological association, and hence afford no basis for developing empirical concepts or for using categorical concepts to identify objects (or events). Hence the necessity of the associability of the sensory manifold is a *conditional* necessity, holding between that manifold and any self-conscious human subject. Necessarily, if a human subject is self-consciously aware of anything via any sensory manifold of intuition, then the content of that manifold is associable. This content's *being* associable *is* its "affinity." The fact that affinity is necessary for the possibility of self-conscious human experience entails that this affinity is transcendental.

Our *recognizing* the transcendental status of affinity – that such affinity among the contents of our sensations is required, necessarily, for us to have self-conscious experience – in part is a matter of Kant's arguments on this count, but is also in part a matter of appreciating the force of his counterfactual examples: In a world lacking affinity, *we* – with the cognitive capacities *we* in fact have – could not be self-conscious. Such a world could be nothing more to us than a booming, buzzing, chaotically polychromatic sensory confusion. Though Kant defines "transcendental reflection" in terms of identifying which of our representations belong to which of our cognitive capacities (see above, §§1.2, 9), making identifications such as these requires reflecting self-critically on our cognitive capacities in action, in our cognitive activities. For this reason, I submit that appreciating the point of Kant's counterfactual examples regarding transcendental affinity – *viz.*, the logical possibility of no identifiable similarities or differences among the contents of our sensations (transcendental chaos) – also requires (what I have called) epistemic reflection (chapter 1). The point is that epistemic reflection on our actual cognitive capacities in action is required to determine what we are and are not capable of knowing or experiencing, and what (if any) *a priori* conditions there are which must be satisfied in order for us to know or experience various basic, ubiquitous characteristics of objects or events.

What is the status of the principle of affinity in Kant's transcendental analysis, and is his analysis of that status adequate?

24 KANT: TRANSCENDENTAL IDEALISM IS THE ONLY EXPLANATION OF TRANSCENDENTAL AFFINITY

In the preceding passage Kant states three times that the ground of the associability of appearances must be "objective." In what sense must it be "objective"? One standard Kantian sense of "objective" is that it is a function which accords with a necessary principle of the unity of apperception, where those principles are necessary because they are required by the subject to structure its experience, and because the subject ineluctably structures its experience in accord with them. This sense of "objective" Kant associates with subjectively necessary, transcendentally ideal conditions of possible experience, that is, with "epistemic conditions" in Allison's sense. And this sense of "objective" Kant ascribes to this principle of affinity in direct connection with three of the passages just considered. Kant argues that transcendental affinity is explicable only by transcendental idealism. Two issues must be distinguished. One concerns the grounds for showing that a principle formulates an *a priori* necessary condition for the possibility of self-conscious human experience. Such grounds lie in Kant's transcendental analysis and proofs of such conditions. The other issue concerns the grounds for such principles being fulfilled or satisfied. Kant argues that the grounds for the satisfaction of the transcendental conditions of possible experience are given by his transcendental idealism. I contend that transcendental idealism cannot account for the satisfaction of the constitutive principle of the transcendental affinity of the sensory manifold. One key problem with Kant's arguments is that he fails to keep these two issues distinct.

I consider in turn each of the four passages in which Kant argues that transcendental idealism alone can explain the satisfaction of the principle of affinity. I comment on the common import of these passages, and then explore the extent to which the principle of affinity must instead be ascribed – on Kant's own principles – to the "object" or to the "content" (rather than to the "form") of experience. These two phrases are used by Kant himself, in passages quoted above.[51] I argue that Kant was quite right to use them, and that this entails that the principle of affinity does not conform to a subjective, transcendental idealist account of "epistemic conditions." The principle of affinity is a necessary condition for unified self-conscious experience, but, unlike the conditions of sensibility and understanding, it is not a condition the satisfaction of which can be attributed to the subject.

[51] A112–13, 4:85.3–10 (above, p. 104); A653–4/B681–2, 3:433.14–29 (above, p. 92).

24.1 *Passage* 1

The paragraph beginning at the end of the first passage just considered (above pp. 102–03) continues as follows:

> There must then be something which, as the *a priori* ground of a necessary synthetic unity of appearances, makes their reproduction possible. What that something is one soon encounters, if one recalls that appearances are not things in themselves, but are the mere play of our representations, and in the end reduce to determinations of inner sense. Now if we can show that even our purest *a priori* intuitions yield no knowledge, except insofar as they contain a combination of the manifold such as renders a thoroughgoing synthesis of reproduction possible, then this synthesis of imagination is likewise grounded, antecedent to all experience, upon *a priori* principles; and one must assume a pure transcendental synthesis of imagination which grounds very possibility of all experience, for experience as such necessarily presupposes the reproducibility of appearances.
>
> (A101–2, 4:78.20–33; tr. Smith, emended)

Here Kant plainly claims that one can only find the *a priori* ground that makes appearances reproducible if one accepts that appearances are not things in themselves, but are only representations, which themselves are only determinations of the inner sense. That is to say, transcendental affinity of appearances, Kant claims, is only explicable if transcendental idealism is true.

24.2 *Passage* 2

Immediately after the third passage considered earlier (above, p. 104), Kant states:

> I therefore ask, how do you make comprehensible to yourselves the thoroughgoing affinity of appearances, whereby they stand under constant laws, and *must* belong under such laws?
>
> On my principles it is easily comprehensible. All possible appearances, as representations, belong to the totality of a possible self-consciousness. But as self-consciousness is a transcendental representation, numerical identity is inseparable from it, and is *a priori* certain, because nothing can come to cognition except through this original apperception. Now, since this identity must necessarily enter into the synthesis of all the manifold of appearances, so far as this synthesis is to become empirical knowledge, the appearances are subject to *a priori* conditions, with which the synthesis of their apprehension must be in complete accord. Now the representation of a universal condition according to which a certain manifold can be uniformly posited is called a *rule*, and, when it *must* be so posited, a *law*. Thus all appearances stand in thoroughgoing connection according to necessary laws, and therefore in a *transcendental affinity*, of which the *empirical* is a mere consequence. (A113–14, 4:85.10–28; tr. Smith, emended)

In this passage Kant states the principle of the affinity of appearances as a principle which, *prima facie*, is open to alternative explanations, he challenges non-Kantians to explain it, and he claims that it is easy to explain on his own transcendental idealist principles.

24.3 *Passage* 3

Near the end of the fourth and most explicit passage discussed earlier (above, p. 105), Kant states the following:

> This objective ground of all association of appearances I entitle their *affinity*. It is to be found nowhere else than in the principle of the unity of apperception, in respect of all cognitions which should belong to me. (A122, 4:90.26–30)

> the affinity of all appearances, near or remote, is a necessary consequence of a synthesis in imagination which is grounded *a priori* on rules.
>
> (A123, 4:90.37–91.2)

Here Kant clearly claims that the principle of affinity can only "be met with" in the principle of the transcendental unity of apperception, and that the affinity of appearances is a necessary consequence of the synthesis of (transcendental) imagination.

24.4 *Passage* 4

Shortly after this same passage (the fourth, above, p. 105), Kant states:

> Thus the order and rule-governedness among appearances, which we call *nature*, we ourselves introduce, and [we] would also not be able to find it there unless we, or the nature of our mind, had not originally introduced it. For this unity of nature should be a necessary, that is *a priori* certain, unity of the connection of appearances. But how should we be able to bring about *a priori* a synthetic unity, if the original sources of cognition of our mind did not contain *a priori* subjective grounds of such unity, and if these subjective conditions were not also (*zugleich*) objectively valid, in that they are grounds of the possibility of cognizing any object (*Object*) of experience at all?
>
> (A125–6, 4:92.14–24; tr. Guyer, *Claims*, 381, emended)

In this passage Kant comments on the order, regularity, and unity of connection among appearances. He claims that this orderliness of nature is something we ourselves introduce into nature, and that only a transcendental idealist account of knowledge and its objects can explain how such an *a priori* synthetic unity is possible. He also acknowledges that this is a "subjective ground" of such a unity, where that subjective ground makes this subjective condition *ipso facto* objectively valid (*objektiv gültig*). This is,

of course, Kant's term of art for the "transcendentally ideal" status of epistemic conditions.

25 TRANSCENDENTAL IDEALISM CANNOT EXPLAIN TRANSCENDENTAL AFFINITY

I submit that Kant is quite correct, for the reasons given in passages analyzed above (§§22, 23), that, for transcendental reasons, there must be some sort of objective ground for the affinity or associability of appearances, without which no general empirical concepts, nor any use of our categories, and hence no experience, would be possible. I explore a key tension in Kant's own account of transcendental affinity, and then challenge his contention that only transcendental idealism can account for such affinity. I argue that the four passages just considered are mistaken, because the principle of affinity does not fit Kant's account of subjective, transcendentally ideal conditions for the possibility of experience (nor Allison's account of epistemic conditions); I argue that Hume was right to hold that such a principle can be upheld on realist grounds (even if Hume did not know the principle by this name).

The relevant tension concerns three of Kant's doctrines. The first doctrine is that only the form of experience is contributed by us, while the matter of experience (or of sensation) is given to us *ab extra*. The second doctrine is that the ground of transcendental affinity, like the ground of any and all formal transcendental conditions (whether intuitive or conceptual) for the possibility of experience, is subjective, it lies in the structure and functioning of the human mind. The third doctrine is his recognition, as he put it in the appendix to the Dialectic, that the principle of affinity concerns the content, rather than the intuitive or categorial form, of appearances, or as he once states in the A Deduction, that the principle of affinity must lie in the object. These three doctrines form an inconsistent triad. I continue to argue that this third doctrine is correct, and that this raises serious questions about each of the other two doctrines and their compatibility. This dilemma presses Kant's transcendental idealism in either of two directions, both of which Kant sought to avoid. One is subjective (or "empirical") idealism, the other is transcendental realism.[52]

The doctrine that the matter of sensation is given *a posteriori*, while the form of experience is given *a priori*, due to the structure and functioning of

[52] A369–71, 4:232.6–233.20; B274–5, A490–2/B518–20, 3:338.21–339.17, 190.25–191.16.

our minds, is fundamental to transcendental idealism.[53] This key feature distinguishes Kant's idealism from Berkeley's; Kant cannot rescind it without confirming his first reviewer's claim that Kant's transcendental idealism is a higher form of Berkeleyan idealism (above, p. 98).

The doctrine that the ground of all transcendental conditions for the possibility of experience is subjective, in the sense of being due to the structure and functioning of human sensibility and understanding, is also central to Kant's transcendental idealism (§21). Several passages documenting this have been quoted and discussed above, as have several passages that purport to assimilate the principle of affinity to other such transcendental or "epistemic" conditions (§24).

The third doctrine is that the principle of affinity concerns the content, and not the (intuitive or categorial) form, of appearances, or as Kant put it in the A Deduction, that the principle of affinity must lie in the object. This doctrine is controversial, and is only rarely mentioned explicitly in either edition of the first *Critique*. (I have already quoted the only relevant passages familiar to me.) Why not sacrifice this principle to save the other two? Ultimately, because omitting it would not solve Kant's problem, because the real tension in Kant's view lies between the first two doctrines; the principle of affinity only serves to highlight that tension. Why?

One reason is that Kant is right that apperceptive experience requires that we are able to identify objects, and that identifying objects requires that they display recognizable regularities (both similarities and differences). Otherwise, our discursive understanding could neither develop empirical concepts nor use general concepts (both empirical and categorial) in connection with intuited objects, yet such use of concepts is necessary to distinguish and identify objects, and to contradistinguish oneself from the objects one perceives. (Kant cannot give up this doctrine without giving up the entirety of his rationalist critique of empiricism and his refutation of idealism.[54]) I submit that Kant – following Hume! – made an adequate case for this line of argument in the passages cited above (§§22.1–22.4, 24.5). The point is that the manifold of sensation must in and of itself be associable, otherwise it would afford no occasion – no ground – for the

[53] E.g.: " thus the matter of all appearances is of course given to us only *a posteriori*, but its form must altogether lie ready for them in the mind *a priori* and thus can be considered in separation from all sensation" (A20/B34, 3:50.11–14). Cf. A50–2/B74–6, A86/B118, A166–7/B208–9, A720/B748; 3:74.9–75.26, 100.25–9, 152.25–153.10, 473.5–18.

[54] Kant's opposition to empiricism is indicated, *e.g.*, in his contention that there may be sensory consciousness without thought. That is precisely the prospect encountered whenever there is no affinity. See, *e.g.*, A90–1/B123 (quoted above, pp. 96–7), and the texts referred to in note 55.

possibility of self-conscious human experience. This is the "principle of affinity." If there were no affinity among appearances, there may be much "empirical consciousness" in the form of an unintelligible plethora of sensations, but there would be no thought, no self-consciousness, and hence no self-conscious experience. Kant makes this point repeatedly in connection with the principle of affinity, especially in the A Deduction.[55]

If this is correct, then Kant's transcendental idealism faces a crucial dilemma: if the associability of the sensory manifold is a function of our constitutive cognitive activity, then the manifold of sensation cannot be given. If instead the manifold of sensation is given, then whether it is associable is a function of the similarities and differences among the sensations comprised in that given manifold; it cannot be a transcendentally ideal function of the subject's structuring of its experience. Consider each horn of this dilemma.[56]

The first horn is this: if the principle of affinity is correct, if our manifold of sensation, or (analogously) the set of appearances to us must be associable (as both Hume and Kant cogently argued), then if this principle is to be assimilated to the rest of Kant's transcendentally ideal conditions for the possibility of experience, that is, if the principle of affinity is also to be a subjectively necessary, transcendentally ideal, "epistemic" condition, then somehow we must generate the characteristics of many of the specific sensations or (analogously) intuitions in any manifold, or the members of any set of appearances, in order to generate and thereby guarantee their ("necessary") associability. This is because affinity concerns specific characteristics of the content of sensations, intuitions, or appearances (*mutatis mutandis*). To make it the case that some characteristics recurred often enough for us to recognize them, we would have to produce the appearances with those characteristics. We would thus be responsible for generating not only the form, but at least some of the matter of experience. In this case, Kant would have to accept the possibility he occasionally acknowledged without endorsing, that our basic sensory representations may have their hidden seat in our own souls (A98–9, 4:77.3–6). In this case, Kant would have to accept his first reviewer's charge that his transcendental idealism was only a higher form of Berkeleyan idealism, a charge that shocked Kant into writing

[55] Especially A111–12, A116–17; 4:83.33–84.32, 87.1–19.

[56] Though related, this is not the same dilemma as the one Kant appears to confront concerning his views about how human understanding prescribes the laws of nature, even though somehow we must nevertheless learn specific laws of nature from experience (*e.g.*, B163–5, 3:126.19–127.30).

the second edition of the *Critique of Pure Reason* (Förster 1987, 542f; Beiser 2002, 92–4, 106–13). Kant cannot accept this horn of the dilemma; he must accept the second horn. That is, he must accept that the transcendental principle of affinity is not the same kind of subjectively generated, transcendentally ideal condition for the possibility of experience as are (officially) the forms of sensibility and the categories of the understanding. The transcendental principle of affinity is a necessary material condition for the possibility of experience. The necessity that this condition be fulfilled does stem from the unity of apperception, but the necessity is conditional, and the satisfaction of this condition is a function of the contingently given, *a posteriori* matter of sensation.

The second horn of the dilemma is this: if the manifold of intuition is given, then whether it is associable is a function of the similarities and differences among the sensations comprised in that given manifold; it cannot be a function of the subject's structuring of its experience. If this is the case (as I have argued), if the sensory manifold is given, and if its associability is a function of its content (a function of the content of the sensations, intuitions, appearances, or even objects comprised in it – the same point holds for each of these), then two things follow. First, Kant was quite right to ascribe the principle of affinity to the "object" of, or to the "content" in, that manifold, even if he only stated this twice.[57] Second, this transcendental affinity, which is necessary for the very possibility of self-conscious human experience, cannot be ascribed to the constitution and functioning of the relevant subjects (human beings). In this case, Kant's four attempts to assimilate the principle of affinity to his other subjective, "epistemic" conditions, are, as I shall now argue, faulty.[58]

[57] A112–13, 4:85.3–10; A653–4/B681–2, 3:433.14–29; quoted above, pp. 104, 92.

[58] Though they find it surprising, Paton (1936, 1:446–51, 481–8); Smith (1923, 253–6); and Broad (1978, 119–21) simply follow Kant's ascription of affinity to the transcendental unity of apperception, rather than analyzing Kant's view. Paton (1936, 1:449, 482) claims the paradox dissolves once we accept Kant's transcendental idealist analysis of nature as an aggregate of appearances. I argue below (in this §) that Kant's transcendental idealism does not and cannot explain the occurrence of affinity at all. Smith (1923, 267), however, much later states that "Kant's assertion, that the empirical manifolds can be relied upon to supply a satisfactory content for the schemata, calls for more adequate justification than he himself adduces." This is an understatement! In connection with the Second Analogy and its example of the moving ship, Smith (1923, 367) states: "So far from refusing to recognize that the subjective order of our experiences is objectively conditioned, Kant is prepared to advance to the further assertion that it is only apprehensible when so conceived." He does not, however, relate this thesis to the issue of affinity, nor consequently, does he address the problems involved in piecing those views together.

The basic problem here is that Kant conflated two distinct issues: the ground of the necessity that the principle of affinity be satisfied, and the ground of satisfaction of that principle. The first of these grounds is a function of the necessary transcendental unity of apperception; the second is a function of *de facto*, *a posteriori* sensations, appearances, or objects (*mutatis mutandis*). In traditional terminology, familiar to Kant (*KdpV* 5:4 note), the necessary unity of apperception is the *ratio cognoscendi* of the principle of affinity, while nature, or the source of appearances, is the *ratio essendi* of the satisfaction of that principle.

Kant's first contention on this head is that the "empirical affinity" of a sensory manifold (or a set of appearances) is the mere consequence of its "transcendental affinity" (A114; quoted above, p. 108). This cannot be correct. That an empirical manifold have affinity – in order for us to be self-consciously aware of it – is indeed entailed by the requirements for unitary self-consciousness, but this entailment expresses a *conditional* necessity: whenever self-conscious human experience occurs, that subject is presented a manifold of associable appearances (*etc*). However, the associability of that manifold of appearances is an independent fact, a *sine qua non*, of self-conscious human experience; *empirical* affinity is an independent given, required to satisfy the transcendental principle of affinity.

Second, transcendental idealism is not at all the only possible explanation of affinity.[59] The satisfaction of the principle of affinity is a distinct factor from its transcendental status as a necessary condition of self-conscious human experience. This is because the "necessity" that this principle be satisfied is conditional. Once this is recognized, then it is possible to recognize that the satisfaction of the principle of affinity is a function of the *de facto* orderliness of nature, just as Hume (in effect) argued.

Kant's related claim, third, that the affinity of appearances is a necessary consequence (*notwendige Folge*) of the transcendental synthesis of imagination (A123; above, p. 109), is equivocal. Like the English "consequence," the German "*Folge*" can denote either logical or causal consequence. The affinity of a sensory manifold is a logical consequence of the occurrence of the transcendental synthesis of imagination requisite for unitary apperception. Neither synthesis nor apperception could occur if the sensory manifold lacked affinity. However, this affinity cannot be a

[59] *Contra* A101–2, A113–14, and A122; quoted above, pp. 108–9.

functional product (causal consequence) of that synthesis, unless Kant were to give up his carefully qualified transcendental idealism and adopt unrestricted subjective idealism. That is the moral of the first horn of the above dilemma. Self-conscious human experience is the *ratio cognoscendi* of the occurrence of transcendental affinity of the sensory manifold; but the occurrence of such transcendental affinity is the *ratio essendi* of self-conscious human experience. In fact, transcendental idealism cannot *explain* the occurrence of transcendental affinity at all (*contra* A101–2, A113–14, and A122).

Finally, it also cannot be the case that we are solely responsible for introducing order and regularity into the appearances we call nature, as Kant also claims (A125; quoted above, p. 109). The basic reason is the same in each case: if the matter of sensation is given us *a posteriori*, then *ex hypothesi* we cannot generate its content. Consequently, we also can neither generate nor otherwise insure the regularities, the recognizable similarities and differences, within that content or among that set of given intuitions. The satisfaction of the transcendental principle of affinity by any manifold of sensations or intuitions or appearances cannot be generated, injected, or imposed by the cognizant subject. In Kant's terms, it cannot be a "transcendentally ideal" condition of possible experience, nor an "epistemic condition" in Allison's sense. The satisfaction of the principle of affinity can be *required* by the cognitive nature of a subject, and thus it can be a *transcendental* condition for the possibility of that subject's self-conscious experience. This is a *conditional* necessity. The satisfaction of the transcendental principle of affinity is a contingent function of the specific characteristics of *a posteriori* matter of sensation, namely the recognizable similarities among those characteristics. Kant was quite right to say that the principle of affinity concerns the content of experience, and that its ground lies in the object of experience. Consequently, the principle of affinity is no more explicable on Kant's transcendental idealist account than on any realist account of the objects of knowledge (*contra* A113–14, 4:85.10–28; quoted above, p. 108). Ultimately, Kant's transcendental proof that appearances to us, or analogously the contents of our sensations, must display a minimum degree of regularity and variety necessary for us to identify objects or events judgmentally, in fact provides a genuine transcendental proof of mental content externalism: we human beings can only be self-conscious if we experience a mind-independent world exhibiting affinity. Note that this argument takes the possibility of

self-conscious human experience as its key premise; it argues *for* (not *from*) mental content externalism.[60]

26 THE MATERIAL BASIS OF TRANSCENDENTAL AFFINITY IS INDEPENDENT OF DISPUTES ABOUT SENSORY AFFECTION

Before considering the broader implications of this conclusion, it is important to see that this conclusion, that the satisfaction of the transcendental principle of affinity is a function of the *a posteriori* matter of sensation, holds independently of the controversial issue of Kant's view of sensory affection and the source of empirical intuitions. The traditional view takes Kant's locutions about "representations" (*Vorstellungen*) as mere modifications of the mind literally, and takes seriously Kant's statements and allusions to the effect that, as modifications of the mind, representations must be caused by something that is not itself a representation.[61] Some recent interpretations, most prominently those of Prauss, Buchdahl, and Allison, treat Kant's locutions about "representations" to stand for *ways* of representing objects, where those ways of representing objects are due to our minds. This line of interpretation does not require distinguishing among kinds of objects, but only among ways of representing them.[62]

The traditional view, defended, for example, by Paton (1936, 1:138–43) and in chapter 2 above, holds (roughly) that the source of sensory stimulation lies in a thing in itself (in one sense of the term), which causally affects our sensory receptors. Kant's transcendental idealism precludes our knowing how this occurs. Its occurrence does not, however, require "double affection," a doctrine Kant never espoused (nor even stated; Gram 1975a).

[60] Thus this genuinely transcendental argument is much stronger than those alleged transcendental arguments that take mental content externalism as a premise. These latter are critically discussed by Brueckner (1999) and McCulloch (1999). McCulloch (1999, 251) is right that "epistemology without philosophy of mind is worthless," but he fails adequately to identify the quintessential Cartesian assumptions that epistemic justification must be infallibilist, and that one can automatically (and quite skeptically) generalize from the possibility of occasional perceptual error to the possibility of universal perceptual error; the "maybe" in McCulloch's "(RD*)" bears on the rejection of perceptual knowledge in his "(not-K)" (1999, 259) only on the basis of these two deeply suppressed, fatal assumptions. See below, §63.

[61] Regarding representations as modes of the mind, see, *e.g.*, A104, 4:80.5–7; B164, A197/B242, A490–1/B518–19, A494/B523, A506/B534; 3:127.1–10, 172.17–23, 338.21–7, 341.6–10, 347.30–1; cf. A101–2, 4:78.20–3, quoted above, p. 108. Regarding the cause of representations, see, *e.g.*, A359, A360, A358, A358–9, A390–1; 4:226.16–24, 226.35–227.4, 225.34–6, 226.4–11, 244.20–2; A494/B522, A288–9/B344–5, A278/B334; 3:340.27–34, 231.3–19, 225.17–19.

[62] Kant occasionally puts his point this way; in the first introduction to the third *Critique*, Kant equates appearances with modes of representing, "*Vorstellungsarten*" (Ak 20:209.22).

All it requires is that there is a kind of causal relation between a thing in itself and a (noumenal) mind, where the effects of that relation are complex due to the functioning of our forms of intuition. On this view, the affinity of the manifold, the associability of the appearances to us as effects on our sensibility caused by things in themselves, must be a function of recognizable similarities among those effects. We might suppose that such similarities of effects must reflect similarities among their noumenal cause or causes, but given Kant's way of distinguishing phenomena from noumena, this can only be a matter of idle speculation. Idle speculation aside, the point is that on the traditional view of sensory affection, the affinity of appearances is a function of recognizable similarities among the characteristics of those *a posteriori* given appearances, where those characteristics are among the given contents of sensation. The affinity of appearances thus cannot be generated, imposed, or injected by the structure or functioning of our minds, although it is a necessary transcendental condition for self-conscious human experience.

Under the influence of Jacobi's and Strawson's condemnation of noumenal causality and its apparent primary theoretical instance, sensory affection, Prauss, Buchdahl, and Allison have developed interpretations of Kant's doctrine of sensory affection according to which no appeal to noumena, as a distinct kind of object, or to their causality is needed to interpret Kant's doctrine of sensory affection. I criticized their interpretation of affection above (chapter 2). My concern here is to show that, even if their interpretation of affection were correct, the satisfaction of the transcendental principle of affinity must be a function of the content or characteristics of the objects that happen, *de facto*, to stimulate our sensory organs. The crux of Allison's position is summed up in this statement:

> there is in this entire account of affection no reference to any entities other than those which are describable in spatiotemporal terms. The point is only that insofar as such entities are to function in a transcendental context as material conditions of human cognition, they cannot, without contradiction, be taken under their empirical description. (*KTI* 250)

Allison's contention is that the distinction between phenomena and noumena is a distinction between two different kinds or "levels" of description, one transcendental, the other empirical. So cast, the transcendental principle of affinity would be something like this: whatever may be the specific, empirical characteristics of objects, they must be similar enough in order for us to recognize some of those similarities. Affinity among the objects of experience is once again required for the possibility of self-conscious

human experience, but also, once again, the satisfaction of the transcendental principle of affinity must be a function of the objects we in fact confront, and their specific empirical characteristics. Consequently, the satisfaction of this transcendental condition, the occurrence of a manifold of sensations affording an occasion for self-conscious human experience, cannot be explained by the structure or functioning of our minds, nor by our way of representing objects. Consequently, even on this anodyne view of affection, the transcendental principle of affinity cannot be a subjective, transcendentally ideal "epistemic" condition in Allison's sense; its satisfaction cannot reflect the nature of our minds "rather than" the mind-independent characteristics of objects.

27 THE PROSPECT OF NONSUBJECTIVE FORMAL TRANSCENDENTAL CONDITIONS OF POSSIBLE EXPERIENCE UNDERMINES KANT'S ARGUMENTS FOR TRANSCENDENTAL IDEALISM, ON GROUNDS INTERNAL TO THE FIRST *CRITIQUE*

Transcendental idealism holds that satisfaction of the transcendental conditions necessary for the possibility of self-conscious human experience are due to the structure and functioning of our minds. How serious a problem is it to have identified, within Kant's own transcendental analysis of those conditions, a condition the satisfaction of which cannot be attributed to the structure and functioning of our minds?

One important result has already been indicated. Transcendental idealism cannot be a direct result of the Transcendental Analytic. Kant's defense of transcendental idealism rests mainly on his direct arguments for it in the Transcendental Aesthetic and his indirect argument for it in the First Antinomy.[63] Allison (*KTI* 50) admits that the indirect argument in the First Antinomy is unsound. Gram (1969) provides a good reconstruction of this argument. While there is much merit in Gram's reconstruction, as an argument for transcendental idealism it fails because it relies on an incoherent and unwarranted notion of infinity as a greatest or last member in an unlimited series (1969, 221). Until a sound interpretation of Kant's indirect proof in the First Antinomy is developed, Kant's defense of transcendental idealism must be sought in the Transcendental Aesthetic and in the parallel, equitenable arguments in the Transcendental Analytic.

[63] On the indirect proof in the First Antinomy, see A506–7/B534–5, 3:347.26–348.9.

Can the Transcendental Aesthetic prove transcendental idealism? No. The interesting point is that the central reason its proofs are unsound is revealed by the very possibility explored here, namely, that there are, on Kant's own analysis, *nonsubjective* material and yet formal transcendental conditions for the possibility of experience. The Transcendental Aesthetic argues along the same lines as the Transcendental Analytic, inferring from the *a priori* necessity of some transcendental condition of possible experience to the subjective source of the satisfaction (and the necessity) of that condition. In the "Transcendental Exposition of the Concept of Space" in the B edition, Kant indicates that a transcendental explication of a principle shows how synthetic cognitions *a priori* in some domain are possible by showing that *only* that principle can afford such knowledge.[64] On the basis of his claim that geometry provides synthetic *a priori* knowledge of space, Kant argues:

> Now how can there reside in the mind an outer intuition which precedes the objects themselves, and in which their concept can be determined *a priori*? Obviously not otherwise than insofar as it [the intuition] has its seat only in the subject, as the formal characteristic of the subject by which it is affected by objects and thereby obtains *immediate representation*, that is, *intuition*, of them; and therefore, only as the form of outer *sense* in general. (B41, 3:54.21–7)

This same kind of argument is found in the "Conclusions from the Above Concepts" in both editions.[65] This inference, from a necessary *a priori* condition of possible experience (in this case, of outer experience in general), to the subjective source of the *satisfaction* of that condition, that is, to space being a form of outer sense, is the same kind of inference found in the Transcendental Analytic, discussed above (§24). Unfortunately, what Kant here claims to be obviously true is evidently false, for reasons given above (§25). It would suffice to support or to explain Kant's premises concerning the necessary *a priori* role of the representation of space in human knowledge,[66] if the form of our intuitive capacity to receive outer intuitions (or sensory stimulation) were spatial, in the sense that we were

[64] B40, 3:54.3–8. I restrict my discussion to Kant's arguments about space, because his arguments about time parallel them, and because he ultimately rests the ideality of time on that of space (B156, 3:122).

[65] See Kant's basic, supposedly exhaustive triad of possible views of space – Newton's, Leibniz's, and his own (A23/B37–8, 3:52.8–14) – and the "Conclusions " he draws from the necessary *a priori* role played by the representation of space in human knowledge (A26–8/B42–4, 3:55.1–56.19).

[66] In the first edition, these passages are simply titled "Of Space"; in the second edition, they are titled "Metaphysical Exposition of this Concept [of Space]," (A22–5, 4:31.17–33.15/B37–40, 3:51.20–53.29). The emendations in the second edition are minor, although a paragraph, titled the "Transcendental Exposition of the Concept of Space," is added (B40–1, 3:54).

only sensitive to objects with spatial characteristics. This possibility could be made consistent with the main theses of Kant's theory of geometry, thus supporting our (alleged) synthetic *a priori* geometrical knowledge. However, this view allows that the spatial properties things have are properties they have regardless of whether we intuit or experience them. Consequently, Kant's inference, in this case, too, is a *non sequitur*. The parallel case can be made about time.

If this is the key argument, or argument strategy, for transcendental idealism in the Transcendental Aesthetic, then the objections made here to Kant's inference, from transcendental conditions of self-conscious human experience to the subjective origin of the *satisfaction* of those conditions, are fundamental objections to the whole of Kant's justification of transcendental idealism. Three basic points indicate that this is the key argument type in the Transcendental Aesthetic. First, Kant himself claims that his case in the Transcendental Analytic is parallel to that in the Transcendental Aesthetic.[67] Second, Allison agrees that this is the keystone to Kant's argument for transcendental idealism in the Transcendental Aesthetic. Third, there has been no serious disagreement in the literature about the basic character of Kant's argument for transcendental idealism in the Transcendental Aesthetic.[68]

Allison (*KTI* 104–9) reconstructs Kant's argument as follows. Our representation of space is *a priori*. Our representation of space can be *a priori* only if the content of our representation of space is a form of our (human) sensibility. If this premise is true, transcendental idealism follows. The second premise contains precisely the same kind of inference as the previous quotation from the Transcendental Aesthetic, which parallels Kant's similar inferences (quoted above, §24) in the Transcendental Analytic. This key premise is defended by arguing by elimination against three possible alternatives: our representation of space is innate; our representation of space is *a posteriori*; or, we have direct acquaintance with space itself (*KTI* 110–11). The position advocated here is designed to provide a distinct, additional alternative to this list of three, where this alternative is formulated so as to grant as much as possible to Kant's analysis of *a priori* representations and their role in synthetic *a priori* knowledge.

[67] A195–6/B240–1, 3:171.25–172.9; quoted above, p. 84.

[68] For discussion, see Greenwood (1989), Buroker (1981), Vaihinger (1892, 2:128–367). I say "basic character" of Kant's argument advisedly. There has been disagreement about details, about the exact number or kind of neglected alternatives, and of course about the soundness of Kant's arguments. I discuss recent reconstructions and defenses of Kant's arguments in Westphal (1997a, note 123).

On this (possible) view, our representation of space is *a priori* because the content of that representation is based on the spatial form of our outer sensibility, where that "spatial form" is understood as a receptivity or a sensitivity only to spatially located and extended objects. On this view, only objects that in fact have spatial characteristics can affect or stimulate our outer sensibility, but those objects are spatially located, extended, and (potentially) moveable, regardless of whether we intuit them. This is a possibility Kant does not consider (nor does Allison). Hence this is a possibility neither Kant nor Allison argue against. Kant's and Allison's arguments by elimination are *non sequiturs* because they do not consider all the relevant alternatives. In sum, the Transcendental Aesthetic contains the same fallacious inference from transcendental conditions of possible experience to transcendental idealism as was found above in the Transcendental Analytic.

This is to improve, but also to vindicate, the standard objection to Kant's argument, known as "the problem of the neglected alternative."[69] The improvement lies in avoiding describing our representation of space as itself *being* space, and in describing it solely in terms of our form of intuition being *spatial* in the sense of being receptive to objects with spatial characteristics, and, due to this selective receptivity, its enabling us to "imagine" or to construct geometrical structures in Euclidean terms.[70] I have also shown that Kant's inferences from transcendental conditions of self-consciousness to transcendental idealism in the Transcendental Analytic neglect this same kind of alternative, and further that the basic strategy of this "neglected alternative" is in fact exemplified by two of Kant's key arguments: one against void space (§20) and the other for the objective, material basis of transcendental affinity. Finally, I have shown that in the case of transcendental affinity, the "neglected" alternative is the only alternative to unmitigated (and unsubstantiated) subjective idealism.

Could Kant argue against this possibility? Can transcendental idealism be saved from these objections to the Transcendental Aesthetic and the Transcendental Logic? With two important exceptions, for all I have argued here, it is an open question which transcendental conditions of possible experience are generated, injected, or imposed by the subject, and

[69] See, *e.g.*, Smith (1923), 113. The objection goes back to Trendelenburg (1862, 1:163), and indeed to Kant's contemporaries. See Vaihinger (1892, 2:134–51). Its most recent detailed defense is by Guyer, *Claims*, 362–8.

[70] Allison (*KTI* 113) is right that urging hold that there are two spaces, one of which is physical, the other of which is an *a priori* representation, makes this objection utterly incoherent.

which are *de facto* characteristics of objects that are conditionally necessary for us to experience them. The problem is to figure out how to argue for either one of these views on the basis of a transcendental analysis of the conditions of possible experience. Kant thought (and Allison still thinks) that transcendental idealism is the only possible explanation of there *being* transcendental conditions for possible experience. This supposition, I have argued, is false, and its falsity is revealed by clearly distinguishing between the transcendental grounds that justify the claim that one or another such *a priori* condition must be satisfied, if we are to be self-conscious, from whatever grounds explain why or how that condition is satisfied. Consequently, defending transcendental idealism requires introducing *entirely new* considerations to supplement Kant's transcendental analysis of the necessary conditions of possible experience in the *Critique of Pure Reason*. I cannot foreclose on that possibility, but neither do I foresee any promising strategies for fulfilling it. (The prospects for defending transcendental idealism on further, new grounds become considerably more remote when the present criticism is augmented by two more fundamental criticisms of transcendental idealism developed in the remainder of this study.)

I have argued further that the basic fallacy in Kant's arguments for transcendental idealism is revealed by principles and arguments internal to Kant's transcendental analysis of the conditions of possible experience. Thus Kant's supposition, that only transcendental idealism could account for transcendental conditions for the possibility of experience, is false for reasons he could, should, and at least to some extent must have been aware of. The falsehood of this supposition is shown, within the framework of Kant's own analysis, by his repudiation of void space as an object of possible experience (§20), and by his recognition, wavering as it may have been, that the satisfaction of the principle of affinity is a function, not of our minds, but rather of the content or objects of experience. In these two important cases, *a posteriori*, empirical, or material factors – namely, space being filled, and a recognizable degree of similarities and differences among appearances – are also necessary "formal" (though neither intuitive nor conceptual) transcendental conditions of possible experience. If it is not only possible, but in these two cases actually the case, that mind-independent and indeed material features of objects are necessary formal transcendental conditions for the transcendental possibility of experience, how many of the other transcendental conditions of possible experience not only admit of, but require, such a realist explication? In his later, post-Critical writings, Kant seems to have recognized that

his transcendental method of analysis outstripped his substantive arguments for transcendental idealism, for he apparently recognized and endorsed this kind of argument from transcendental conditions to necessary material features of experience.[71]

28 CRITIQUE OF ALLISON'S METHODOLOGY

With these points in mind, it is worth reexamining Allison's statement, quoted above (§16), of Kant's fundamental assumption:

> Behind Kant's formal idealism . . . lies a principle that is implicit in the *Critique* as a whole, but is nowhere made fully explicit: that whatever is necessary for the representation or experience of something as an object, that is, whatever is required for the recognition or picking out of what is "objective" in our experience, must reflect the cognitive structure of the mind (its manner of representing) rather than the nature of the object as it is in itself. To claim otherwise is to assume that the mind can somehow have access to an object (through sensible or intellectual intuition) independently of the very elements that have been stipulated to be the conditions of the possibility of doing this in the first place. This involves an obvious contradiction. The transcendental realist avoids this contradiction only because he rejects the assumption that there are any such conditions. In so doing, however, he begs the very question raised by the [first] *Critique*.
>
> (*KTI* 27, cf. 9, 110)

This passage contains a number of distinct and important claims. The first is Allison's claim that Kant's fundamental principle is never made fully explicit. The second is Allison's formulation of that principle, the thesis that whatever conditions are necessary for recognizing the objective elements in our experience must "reflect" the structure of our minds rather than the nature of the objects we experience. Above I have quoted several passages from Kant's first *Critique* and other Critical writings that state this principle directly. I have also quoted and analyzed Kant's doctrines about void space and transcendental affinity to show that this principle is false, because these two necessary conditions for the possibility of self-conscious human experience do not and cannot reflect the structure of our minds *instead of* the nature of the objects we experience. In these two cases, the conditions that space be filled and that appearances have affinity, are indeed necessary for minds like ours to have self-conscious experience, but in each of these cases, the satisfaction of those conditions must be a

[71] See Förster (1989b) and especially Edwards (2000), also below, §§58, 59. Guyer (*Claims*, Pt. III) has argued, quite plausibly, that this view also appears in the Analogies of Experience.

function of the mind-independent real characteristics of the objects we experience, and the space within which we experience them. Kant's and Allison's disjunction, between what is contributed by our minds and what is a feature of objects themselves, which is fundamental to transcendental idealism and their arguments for it, is unsound and unwarranted.

Allison's third claim is that to deny this disjunction involves assuming that we have cognitive access to objects independent of the very conditions that constitute our only possible cognition of objects; his fourth is that this assumption is obviously contradictory. If part of Allison's principle remains only implicit in Kant's first *Critique*, it is this. Allison is quite right that this assumption is self-contradictory. However, he is quite wrong that this assumption must be made by anyone who denies the fundamental transcendental idealist disjunction between subjective conditions and real characteristics of objects (that is, between "epistemic" and "ontological" conditions). In the two cases highlighted in this chapter, void space and transcendental affinity, no such incoherent assumption was needed, either implicitly or explicitly, to show that these two conditions are necessary for our possible experience, even though those conditions are not satisfied by the subject's constitutive cognitive activity.

Allison's fifth claim is that transcendental realists can avoid making that incoherent assumption of independent access to objects, that is, realists can avoid claiming some sort of transcendental knowledge by acquaintance, only by denying that there are "any such [transcendental] conditions" for the possibility of experience. Allison's phrase "any such conditions" draws together two claims: first, that there are transcendental conditions for the possibility of experience; and second, that those conditions are subjective in origin. The burden of the argument of this chapter has been to show that these two claims need not, and in two important cases cannot, be conjoined. Realists can in fact embrace Kant's aim to provide a transcendental analysis of the necessary *a priori* conditions of self-conscious experience, even while rejecting Kant's transcendental idealist account of the satisfaction of those conditions. This argument has been made by showing that in two important cases, void space and transcendental affinity, Kant himself provides such an analysis, and that his analyses in these two cases are sound. This argument coincides with Guyer's analogous conclusion about the principles defended in Kant's Analogies of Experience referred to earlier, namely, that the Analogies of Experience show that the Categories are necessary conditions for possible experience, and that these arguments neither require nor entail transcendental idealism. Realists, even "transcendental realists," can be both grateful to and enthusiastic about the aims,

and even much of the methods and substance, of Kant's transcendental analysis of the necessary conditions of possible experience. Allison's objection to transcendental realism, based on a supposed assumption of "independent cognitive access" to objects, is spurious.

Allison's sixth and final claim is that transcendental realists, by denying that there are "any such conditions," beg the main question raised by Kant's first *Critique*. I have shown, on the contrary, that realists need not beg this question by denying that there are any transcendental conditions for the possibility of experience. Indeed, realists can affirm that there are transcendental conditions for the possibility of experience. The question-begging lies instead in the metaphysical component of Kant's and Allison's analyses. By assuming that transcendental conditions must be subjective in origin, or by arguing that they must be of such origin on the basis of faulty arguments by elimination, it is instead Kant and Allison who beg the main metaphysical question raised in the first *Critique*.

29 CONCLUSIONS

Once it is recognized that Kant himself offers some important transcendental arguments for necessary, formal, nonsubjective, material conditions of possible experience, the prospect is open, even within Kant's own analysis, of developing transcendental arguments for necessary conditions of possible experience on an unqualifiedly realist basis.[72] Realists can embrace the transcendental analysis of the conditions necessary for the experience of objects. Allison's explicit (and Kant's implicit) objection to "transcendental realism," that it requires cognitive access to objects independent of the conditions necessary for our experience of them, is spurious. Indeed, Kant himself provided at least one crucial element of a realist analysis of the transcendental conditions of possible experience: the objects any self-conscious human being experiences must display affinity, where that affinity is a function of the characteristics of those objects themselves.[73]

[72] Gordon Brittan suggests that other such conditions can be found in Kant's Axioms of Intuition; consider Brittan (1978, ch. 4 (especially pp. 92–5)) in connection with the present analysis.

[73] My analysis in this chapter raises three subsidiary issues. One is whether the dilemma confronting Kant's idealism regarding transcendental affinity of the sensory manifold is distinct from the dilemma confronting his view that the human mind prescribes the basic laws of nature. A second concerns the neglect in the literature of Kant's conflating the *ratio essendi* and the *ratio cognoscendi* of the transcendental affinity of the sensory manifold. The third concerns some recent attempts to try to reconstruct Kant's arguments in the Transcendental Aesthetic in more defensible form. I discuss these in Westphal (1997a), notes 92, 98, and 123, respectively.

Kant contends that transcendental or epistemic reflection reveals that our forms of sensibility are passive, that is, that they require stimulation by something other than themselves (chapter 2). I submit that Kant is correct about this (see below, §§62, 63). This thesis is reinforced by Kant's transcendental proof that the "principle of affinity" must be satisfied by sensory matter or appearances given to us *ab extra*, if we are to be self-conscious. Thus Kant's transcendental proof of "the principle of affinity" provides a genuinely transcendental argument for (not from) mental content externalism, a proof we can only understand or assess on the basis of epistemic reflection on the cognitively devastating implications of transcendental chaos. This transcendental proof of mental content externalism also serves as an argument for realism *sans phrase*, because it refutes Kant's own arguments against realism and for transcendental idealism, and also, for example, Carnap's rejection of realism, based on his distinction between internal and external questions, and Putnam's arguments for internal realism (Westphal 1998c, 2003).

In this connection it is important to understand another strong impetus for realism in epistemology that stems from the failure of Kant's Transcendental Analytic to justify our use of causal concepts in empirical judgments, including both commonsense and scientific knowledge, within and on the basis of Kant's transcendental idealism. In chapter 4 I identify a crucial "gap" (as Kant called it) in Kant's transcendental proof of the legitimacy of causal judgments. In chapters 5 and 6 I argue that Kant's transcendental idealist attempts to fill this gap with metaphysical analysis in the *Metaphysical Foundations of Natural Science* fail. The results of this extended analysis augment the transcendental proof of mental content externalism developed in this chapter, by showing that we cannot generate or impose the causal structure of what we experience. Rather, it is transcendentally necessary that we make legitimate causal judgments, if we are to be self-conscious, although the causal structure we thus identify must hold of the objects or events we experience, regardless of whether we experience them. More precisely, this causal realism is required, for transcendental reasons Kant provides, in order for us to be "conscious of [our own] existence as determined in time" (B275), that is, to be aware of ourselves as being aware of some events as occurring before, during, or after others. The satisfaction of the "principle of affinity" provides a necessary, but not a sufficient, condition of our being self-consciously aware of any temporal order of events, on the basis of which alone we can distinguish ourselves from what we experience, through which alone we can be *self*-consciously aware of the temporal order of what we experience.

CHAPTER 4

The gap in Kant's Critique of Pure Reason

30 INTRODUCTION

This chapter begins a second, independent line of internal criticism of Kant's transcendental idealism: one primary aim of Kant's Critical philosophy, to analyze and justify causal judgments, fails on its own terms. Kant claims that only transcendental idealism can justify empirical realism (A369–70). I argue to the contrary, that Kant's transcendental idealism cannot justify empirical realism because it cannot justify realism about ordinary causal judgments. Kant's answer to Hume's causal skepticism is insufficient. I stress "insufficient," for Kant's analysis of the conditions under which alone we can make legitimate causal judgments contains a wealth of philosophical insights, unjustly neglected by scholars and philosophers alike. The inadequacies of Kant's account of causal judgments thus points the way towards a successful transcendental proof of realism, including realism about ordinary causal judgments.

This second line of criticism proceeds in three main steps. The first is to show that Kant's analysis and defense of causal judgments in the first *Critique* fails because the principle Kant expressly defends is that every event has a cause, although the principle he needs to defend is that every physical event has an external cause. Two further steps show that Kant's attempt to fill this lacuna in the *Metaphysical Foundations of Natural Science* fails. The second step is to show that Kant's argument for ascribing dynamic forces to matter fails. The third step is to show that Kant's proof of the law of inertia fails. The task of the present chapter is to explain and defend the first of these three steps. The second step is considered in chapter 5, the third in chapter 6. The relevance of the second and third steps to the original line of criticism is explained in those chapters. Very briefly, the present chapter reveals the centrality of Kant's *Foundations* to his transcendental analysis in the first *Critique*. Chapter 5 shows how Kant's method in the *Foundations* is based squarely on transcendental

idealism. The failure of Kant's *Foundations* to play its crucial roles in Kant's transcendental analysis (examined in chapters 5 and 6) also constitutes a crucial failure of Kant's idealism. Chapter 7 diagnoses and remedies these flaws by showing that Kant's methods of transcendental analysis and proof have greater resources for meeting these challenges than does his transcendental idealism – resources greater than Kant himself realized.

The first step is based on Kant's own observations. In the preface to the third *Critique* (1790) Kant confidently claims that this book completes his Critical philosophy (*KdU* 5:170). In 1792, Kant noticed a crucial circularity in his proof in the *Foundations* that matter and its quantity can be defined in terms of a balance of attractive and repulsive forces.[1] By the middle of 1798, Kant came to regard the mathematical foundations of natural science as not a part of the philosophy of nature – *contra* his position in the *Foundations*.[2] Kant was horrified, for he believed these fundamental problems infected not only the basic principles of the *Foundations*, but the whole Critical edifice. In this connection he came to speak of a "gap" in his Critical system, a gap he proposed to close with his late, unpublished work, "Transition from the metaphysical foundations of natural science to physics."[3]

These problems can only be dire if the *Foundations* is very intimately related to the first *Critique*. Why is the *Foundations* so important to the Critical philosophy as a systematic whole? I consider two answers to this question by Burkhard Tuschling and Eckart Förster (§31). I contend that each of them is on the right track, but that ultimately the real importance of the *Foundations* for the first *Critique* is much deeper than they recognize.[4] In brief, to justify the Analogies of Experience, to prove that the validity of causal judgments about objects is a necessary, transcendental condition for self-conscious human experience, Kant needs not simply the transcendental causal thesis, that every event has a cause, but the metaphysical causal

[1] Letter to J. S. Beck, Oct. 16, 1792 (Ak 11:362; 2nd edn 376–7); cited by Förster (1987, 548; 2000, 33–5); see below, §49.

[2] Ak 21:477, 482; (1993), 41, 43; cited by Förster (1987, 548–9).

[3] See Kant's letters to Garve (21.9.1798, 12:256–8; 1967, 250–2) and to Kiesewetter (19.10.1798; 12:258–9; 1967, 252–3); cited by Förster (1987, 533; 2000, 48–50). Kant (1999) includes an editorially sound edition of Kant's late ms.

[4] Tuschling's and Förster's views on the relation of the *Foundations* and *opus postumum* to the first *Critique* have been challenged by Friedman (1992a, ch. 5, §I); however, his objections are fundamentally misguided (Westphal 1995a, §X). For discussion of the status of their analyses, see Edwards (2004). Förster (2000) essentially restates the views (on these topics) developed in his earlier articles.

thesis, that every physical event has an external physical cause.[5] This thesis cannot be defended on pure transcendental grounds alone, but requires the metaphysics of the *Foundations* as well. This thesis requires explicating metaphysically the empirical concept of matter as "the moveable in space," and it requires a metaphysical principle regarding the individuation of spatiotemporal things. These metaphysical presuppositions of the Analogies have important implications for the structure of Kant's Critical philosophy.[6] In chapters 5 and 6 I argue that the *Foundations* cannot fulfill the role Kant assigns it in filling this fundamental "gap," and that this failure redounds to Kant's transcendental idealism.

31 TWO ACCOUNTS OF THE IMPORTANCE OF THE *FOUNDATIONS* FOR THE FIRST *CRITIQUE*

31.1 *Tuschling's account*

Tuschling (1971, 37–9) explains the importance of the *Foundations* for Kant's first *Critique* in terms of the Table of Categories laying the ground plan for theoretical science, in particular, the ground plan for the metaphysical foundations of physics. Publishing the *Foundations* thus fulfilled Kant's aim, left unfulfilled in the twenty years since Kant accepted Lambert's offer to collaborate, an aim which led Kant in the interim to write the first *Critique* to establish the parameters for the *Foundations*. In this connection, Tuschling cites the following remark Kant added to the B edition, subsequent to publishing the *Foundations*:

> For that this table [of categories] is extremely useful in the theoretical part of philosophy, and indeed is indispensable for outlining completely the plan of a whole of a science, so far as it rests on concepts *a priori*, and for dividing it systematically according to determinate principles; this is self-evident from [the fact] that the table contains all the elementary concepts of the understanding in

[5] I have formulated the aim of the Analogies of Experience deliberately in terms often used for formulating the aim of Kant's "Transcendental Deduction." Eckart Förster reminds me that the aim of the Transcendental Deduction is quite restricted; it only aims to show that the pure categories of the understanding cannot be applied beyond the bounds of possible experience, and that in principle those categories are applicable to intuited objects. I shall argue that Kant's legitimation of causal judgments, whether in the Deduction proper, or in the Analogies, or both combined, requires the metaphysical causal thesis just specified.

[6] In developing this line of argument, I explore a fundamental, though unofficial, relation between the first *Critique* and the *Foundations*. The official relations between these two works are complex, and have been subject to controversy. For good discussions of the topic, see Dahlstrom (1991) and Falkenburg (2000).

their completeness, indeed it even contains the form of a system of them in the human understanding, and consequently indicates all the moments of a projected speculative science, indeed even their order; as I accordingly have essayed [*Probe geben*] elsewhere.* (B109–10, 3:95.14–23)

Kant footnotes the *Foundations* as the intended locus of this test (*Probe*). Tuschling notes that a systematic failure of the *Foundations* would thus reflect directly back onto the soundness of the first *Critique*. This is true, but only part of the story. I shall contend below that the metaphysical causal thesis formulated in the *Foundations* is necessary not only for physical science, but also for commonsense judgments about ordinary physical objects; it is necessary for using the category of causality to judge objects of possible experience, or, alternatively, for justifying the legitimacy of our causal judgments about the objects and events we experience.

31.2 *Förster's account*

In a very interesting analysis of the "gap" Kant saw looming in his system, a gap that gave him a "pain like that of Tantalus," Eckart Förster (1987, 540–3; 2000, 48–74) contends that the problems with the *Foundations* jeopardized the whole Critical philosophy because the Schematism of the first *Critique* dealt solely with time determinations, and so did not provide *sufficient* conditions for the application of the Categories to outer intuitions. Kant thrust the *Foundations* into this breach by using it to address the application of the categories to possible objects of outer, spatial, intuition. This was Kant's main response to the first review of the first *Critique*, which equated his transcendental idealism with Berkeley's idealism. The subsequent discovery of the *Foundations*'s flawed definition of the quantity of matter and flawed use of mathematics thus threatened the entire critical system (1987, especially 542, 550; 2000, 72–4). Though I believe Förster, too, is on the right track, there is a far deeper connection between the *Foundations* and the first *Critique*.[7]

[7] In a vein similar to Förster, Washburn (1975) argues that the main difference between the first and second editions of the *Critique* is the introduction, in the second edition, of what he calls "the Principle of the Priority of Outer Sense." However, Washburn overstates the contrast between the two editions because he overlooks two important facts: Kant begins his Observation on the first edition Paralogisms by emphasizing the priority of outer sense (A381, 4:238.35–239.32; see §34 below), and Kant clearly develops the main premise of what becomes the "Refutation of Idealism" in the first edition of the Fourth Paralogism (A344, 370; 4:218.2–3, 232.26–36).

32 PLAN OF DISCUSSION

The *Foundations* introduces four important refinements, one systematic and three doctrinal, that are crucial to Kant's arguments in the Analogies of Experience. To show this, I review some main points about Kant's official account of the transcendental level of his analysis in the first *Critique*, and its relation to the metaphysical analysis developed in the *Foundations* (§33). I then examine the extent to which Kant's Schematism omits outer intuitions. I contend that this omission is not so complete as Förster suggests (§34). I then discuss four refinements of the Critical edifice represented by the *Foundations*. One is the new definition of "metaphysics" (§35.1). This newly defined sort of metaphysics is, however, already present in and central to the first *Critique* (§35.2). Another point concerns the lifelessness of matter, a crucial premise for showing that physical events require external causes (§§35.3–35.5). The third concerns the distinction between the following two causal theses: every event has a cause, and every physical event has an external physical cause (§35.6). I then argue that the Analogies cannot stand without these two tenets, which are not supported in the first *Critique*, but only in the *Foundations* (§§36, 37). Moreover, defending these two tenets requires a third tenet, concerning the individuation of spatiotemporal objects, that is only defended in the *Foundations* (§38). This shows that the *Foundations* is crucial to Kant's first *Critique*, and thus to the Critical edifice as a whole. I elaborate some ramifications of these points for the structure of the Critical philosophy (§39), and then suggest a likely source of Kant's difficulty with the two causal theses (§40).

33 TRANSCENDENTAL AND METAPHYSICAL ANALYSIS

The basic points of Kant's official account of the nature and relation between transcendental and metaphysical analyses are these. The transcendental *Critique* only considers understanding and reason themselves within a system of all concepts and principles which relate to objects in general, while abstracting from given objects[8] or events and their specific causes, and indeed even the cause of change in general.[9] Its main aim is to analyze how synthetic cognitions *a priori* are possible.[10] Transcendental knowledge

[8] A55–7/B79–82, A65–6/B90–1, A845/B873; 3:77–8, 83.33–84.7, 546.16–23; the last of these is quoted below, p. 170. Cramer (1985, 122) notes that passage is inaccurate insofar as it leaves no place for the "Transcendental Aesthetic" in the ground plan of Kant's *Critique*.

[9] A171/B213, A206–7/B252; 3:155, 178.

[10] B19, 3:39; *Prol.* §5, 4:279.

is not concerned with objects, but instead with our way of knowing objects (*Erkenntnisart*) in general, insofar as this is possible *a priori*.[11] This restriction does not rule out considering specific examples in the Analogies, insofar as the form of the alterations considered there, the successive states of affairs illustrated by Kant's examples, can be explicated *a priori* according to the law of causality and the conditions of time.[12]

Among much else, the *Critique* sets out the sources and conditions for the possibility of the metaphysics of nature.[13] The *Foundations* applies the transcendental principles of the "general metaphysics" (*MAdN* 4:469–70) developed in the first *Critique* to a specific range of given objects, nature as a realm of extended things.[14] In this way, the *Foundations* serves to give sense and meaning to the pure *a priori* concepts and principles set out in the first *Critique*:

> And so a separate metaphysics of corporeal nature does excellent and indispensable service to *general* metaphysics, inasmuch as the former provides instances (cases *in concreto*) in which to realize the concepts and propositions of the latter (properly, transcendental philosophy), *i.e.*, to give to a mere form of thought sense and meaning. (*MAdN* 4:478.15–20; tr. Ellington)

As Förster notes, this language is virtually identical to the language Kant uses in describing the role and significance of the Schematism in the first *Critique*:

> This significance [*sc.* relation to an object] is acquired by the categories from sensibility, which realizes the understanding insofar as it also restricts it. (A147/B187, 3:139.36–7)[15]

[11] B25, 3:43. In the first edition, Kant expresses this differently: "I call all knowledge *transcendental* which is concerned, not with objects, but with our *a priori* concepts of objects in general" (A11–12, 4:23.8–11). The second edition formulation is an improvement because it leaves a proper place for the Transcendental Aesthetic and for the Principles of the Understanding.

[12] A207/B252, 3:178. I note only points that are important for my subsequent analysis. For further discussion of Kant's transcendental level of analysis, see Förster (1989b), especially 290–2.

[13] A*xxi*, 4:13–14; A845–8/B873–6, 3:546–8; *Prol.* §5, 4:279.

[14] A845/B873, 3:546; cf. "Welches sind die wirklichen Fortschritte, die die Metaphysik seit Leibnizens und Wolfs Zeiten in Deutschland gemacht hat?," Erster Entwurf, zweite Abteilung (20:285.31–7).

[15] Förster (1987), 542. This correspondence has also been noted by Peter Plaass (1965, 20) and by Karen Gloy (1984, 37–8). Paton (1936, 2:200 n 1) refers to some of Kant's *Nachträge* to the first edition, where he notes that his proof must be conducted in terms of spatial substances. Cf. *Selbständige Reflexionen im Handexemplar der KdrV (A)*, *Refl.* no. LXXX (re: A182; 23:30.19–21) and no. LXXXIII (re: A183; 23:31.18–19). Friedman (1992, 136–7, 159, 163–4, 171, 185, 202–3, 234, 255, 259) takes up this point, too, and treats it as if the *Foundations is* the schematism of the categories. Friedman has greatly overstated the case (Westphal 1995a, §X).

I fill in the role of the *Foundations* in the Critical system later (§§35–38). For now, it is important to clarify Kant's use of the term "realize."

Tetens first used the term "realize" (*realisieren*), in the sense relevant to Kant, in his book, *Über die allgemeine speculative Philosophie* (1775; see Tetens 1913). Tetens was deeply influenced not only by Wolff but also by the Scottish Common Sense school (especially Reid), and he espoused a commonsense realism. In Tetens's (1913, 29, 34, 36, 37–8) use, to "realize" a concept or rational principle is to show that it is essential to rational judgment and that it corresponds to actual objects. In view of Tetens's realism, "realize" does not have any constructivist or idealist (especially Husserlian) connotations. Particularly the second component of Tetens's use of "realize," to show that an object can be given which corresponds to a concept or principle, is central to Kant's project. This is the sense of the term given in G. S. A. Mellin, *Enzyklopädisches Wörterbuch der kritischen Philosophie* (1801–2, 4:854–5), as well as in Ritter and Gründer, *Historisches Wörterbuch der Philosophie* (1992, 8:143–4), where Tetens is cited as the originator of this particular usage. However, Tetens only originated this usage of the *term* "realize" in connection with a proof that an object can be given for some concept or principle in question. The purpose of such a proof was already central in Christian Wolff's philosophy, from which Kant learned a great deal (Kuehn 1997). In sum, to "realize" an *a priori* concept would be to prove that it has "objective reality," in Kant's sense of the term, namely, possible (legitimate) reference to an object (A677/B705; cf. above, §§4, 7).

The suggestion that the *Foundations* serves to "realize" the Categories and principles of the first *Critique* has merit, though it provides no schematism of those concepts and principles. Unlike the Schematism chapter of the first *Critique*, Kant nowhere in the *Foundations* suggests or states any specific *schema* for any concept or principle. This suggestion also errs about the omission of outer intuitions from the A edition (see §34). The substantive connections between the first *Critique* and the *Foundations* are more intricate and illuminating than this glib suggestion indicates.[16] I argue that the principles of the Analogies of Experience form a tightly integrated set, none of which can be used without conjoint use of the others (§§2.5, 36). Kant's Paralogisms draw on this result and on Kant's semantics of cognitive reference (§8) to show that we can only identify causally active substances among spatiotemporal objects or events (§60.2). This entails

[16] See Falkenberg (2000), 280–3, 288–92. For more detailed assessment of Förster's interpretation, see Edwards (2004, 173–7).

that we can only legitimately use the transcendental causal thesis, that every event has a cause, in the restricted and more specific form of the metaphysical causal thesis, that every physical event has an external cause. Kant only identifies and argues for the metaphysical causal thesis in the *Foundations* (below, chapter 5). However, his metaphysical method for justifying this thesis in the *Foundations* is insufficient for the job (see chapters 5, 6). Because his metaphysical method is rooted squarely in transcendental idealism, the failure of the *Foundations* to provide this proof – which is crucial to the Analogies, as well as to natural science – also marks a key failure of Kant's idealism (§58). Kant's transcendental idealist analysis of these issues merits such extended attention, for it represents by far the most sophisticated philosophical attempt to prove "apodictically" the legitimacy of causal judgments. Its shortcomings are philosophically instructive: further use of Kant's new method of transcendental reflection, together with his semantics of cognitive reference, suffices to show that our use of the specific, metaphysical causal principle is justified (§62), and provides a sound critique of global perceptual skepticism (§63).

3.4 THE ROLE OF OUTER INTUITION AND ITS OBJECTS IN THE FIRST EDITION

To what extent does Kant's *Foundations* compensate for the (alleged) omission of outer intuitions in the A Schematism? Förster contends that the *Foundations* remedies that omission because there is no specific role for outer intuitions in the A Schematism (1781), while Kant emphasizes them in the B Schematism (1787). However, this alleged absence is greatly exaggerated. In the A Schematism, Kant repeatedly appeals to the conditions necessary for applying concepts to objects in general[17] and he appeals to the conditions of intuition in general.[18] Stated generically in the way Kant does, these conditions include outer (spatial) as well as inner (temporal) intuition. This also holds of Kant's appeal to the conditions of experience in general, which he expects to serve as the third, mediating link to justify synthetic propositions *a priori*.[19] Yet Förster is certainly right

[17] A136/B175, A139/B178, A145–6/B185, A147/B187; 3:133, 135, 138–9.

[18] A158/B197, A180/B223, A230–1/B283, A244–6; 3:145, 161, 195–6, 4:160–1.

[19] Cf. A154–5/B193–4, A158/B197, A217/B264; 3:143–4, 145, 185. These passages, along with those cited in the previous two notes, occur well after Kant sheds the abstraction, used in the initial stages of the Transcendental Deduction, of sensibility in general, which disregards our specific human modes of sensibility, space, and time. Kant states and then sheds this abstraction in §24; especially B150, 3:119.4–8. See Baum (1986, 127–36).

that the first edition Schematism heavily stresses the role of inner intuition, the time series, and the succession of appearances.[20] And Förster is right that in a passage added to the second edition – subsequent to the review describing transcendental idealism in Berkeleyan terms, and subsequent to the *Foundations* – Kant specifically stresses the role of outer intuitions in the General Remark to the System of Principles. Kant insists, namely, that

> in order to understand the possibility of things in conformity with the categories, and so to demonstrate the *objective reality* of the latter, we need, not merely intuitions, but intuitions that are in all cases *outer intuitions*.
>
> (B291, 3:200.6–9; cited by Förster (1987, 541; 2000, 58))

Outer intuitions are spatial, and the application of categories to spatially extended substances is central to the determinacy of Kant's account of the objects of outer experience.

However, the contrast between Kant's treatment of the Schematism in the first and second editions is not so simple as Förster describes. First of all, the second edition retains virtually all of those passages that stress time and temporal determinations, and indeed it emphasizes the role of the inner form of intuition in the new title for the Second Analogy: "Principle of Succession in Time, in accordance with the Law of Causality" (B233, 3:166.31). Additionally, in connection with the Anticipations of Perception in the first edition, Kant expressly includes spatial along with temporal determinations (A167/ B209, 4:116, cf. line 7).

Three further facts are especially important here. The A edition already distinguished the excellent prospects for the physiology of nature from the dismal prospects for the doctrine of the soul. The basis of this striking contrast is the absence of intuitions of extended impenetrable beings in the latter would-be science:

> If we compare the doctrine of the soul as the physiology of inner sense, with the doctrine of the body as a physiology of the object of the outer senses, we find that while in both much can be learnt empirically, there is yet this notable difference. In the latter science much that is *a priori* can be synthetically known from the mere concept of an extended impenetrable being, but in the former nothing whatsoever that is *a priori* can be known synthetically from the concept of a thinking being. The cause is this. Although both are appearances, the appearance to outer sense has something fixed or abiding which supplies a substratum as the basis of its transitory determinations and

[20] A143/B182, A177–8/B220, A182/B225, A188/B231, A190/B235, A190–1/B235–6, A194/B239–40, A199/B244, A199–200/B244–5, A202–3/B248, A203/B249, A215/B262, A217/B264.

therefore a synthetic concept, namely, that of space and of an appearance in space; whereas time, which is the sole form of our inner intuition, has nothing abiding, and therefore yields knowledge only of the change of determinations, not of any object that can be thereby determined. (A381, 4:238.35–239.13)[21]

This A edition passage strongly emphasizes the importance of outer intuitions for making synthetic judgments *a priori*, and directly prefigures the similar passage that concludes the General Remark on the System of Principles added to the B edition (quoted by Förster), and the much more extended remark in the *Foundations* opposing the scientific status of empirical psychology: there can be no "physiology" of – no synthetic *a priori* judgments about, nor rational doctrine of – the soul (B293–4, 3:201, *MAdN* 4:471; see below, §61.2).

Second, Kant states that the schema of substance is "permanence of the real in time" (A144/B183, 3:137.30–2), and he repeatedly stresses the role of the permanent in appearance throughout the Analogies. Later in the Amphiboly of the Concepts of Reflection, Kant stresses a point, especially important here, about the role of the permanent in appearance. The permanent in appearance is to be found only in space (see previous quotation), and it is directly associated with *spatial* extension:

an abiding (*beharrliche*) appearance in space (impenetrable extension) can contain only relations and nothing at all that is absolutely inward (*schlechthin Innerliches*), and yet [it can] be the primary substratum of all outer perception.
(A284/B340, 3:228.20–3)

Kant's remarks about mere relations and the absence of anything strictly inner are considered below (§§35.4, 35.5, 56, 57). Note here Kant's extremely close connection between the permanent in appearance and impenetrable extension.[22] That connection strongly suggests that the A Schematism and Postulates at least implicitly rely on extension, hence on space, and hence on outer intuition, even if they do not often mention them as such, insofar as they rely on the permanent in appearance.

Finally, these two points are not merely remarks in passing, they are central doctrines of two central parts of the first *Critique* (in both editions), namely the Paralogisms and the Analogies, whose joint consequence is that we can make determinate causal judgments about objects only in the case of outer, extended, that is, physical, objects. The Analogies aim to prove,

[21] Cf. A349–50, A361, A366, A398–9, A402–3; 4:221.1–15, 227.21–8, 230.18–28, 248.28–249.11, 251.12–20; B420, 3:274.15–24.

[22] The permanent at issue here is a permanent in appearance, and so does not in any direct way concern the immortality of the soul (cf. A381, 4:288.35–239.13; quoted just above).

respectively, the permanence of substance amidst the transition of states, the rule-governedness of transitions of states, and the mutual causal interaction of coexisting substances; while the first three Paralogisms aim to prove that the thinking subject cannot legitimately be judged to be a simple, numerically identical substance.[23] I contend that the three Analogies form an integrated, mutually supporting system of principles (§§2.5, 36.3). Consequently, by denying our knowledge of the substantiality of the self, Kant's doctrine in the Paralogisms precludes precisely the kinds of determinate causal judgments about objects that the principles of the Analogies are designed to justify. Consequently, those principles cannot be applied to objects of inner intuition, they can only be applied to objects of outer intuition (below, §61.2).[24] This doctrine is already present, centrally, in the first edition of the *Critique*. Consequently, the importance of the *Foundations* for the Critical edifice as a whole cannot lie simply in its completing the Schematism by introducing into it the condition of outer intuition.

35 THREE CRITICAL INNOVATIONS IN KANT'S *FOUNDATIONS*

Granting that the B edition more clearly emphasizes the role of outer intuitions in the Schematism and the principles, I believe there are three other related, yet more important refinements introduced by the *Foundations* into the Critical edifice. (A fourth is discussed below, §§38.4, 38.5.) At the systematic level, Kant introduces a new and distinctive concept of "metaphysics" as the determination *a priori* of an empirical concept (§35.1). Significantly, this kind of metaphysics is already present in the first *Critique* (§35.2). At the doctrinal level, Kant greatly refines several important points about matter and the status and content of our concept of it. In particular, Kant gives far more attention to the fact and the importance of the lifelessness of matter (§35.3). In the first *Critique*, Kant tried to prove that matter is intrinsically lifeless on pure *a priori* transcendental grounds (§35.4). This argument is inadequate; in the *Foundations* he argues for the same conclusion on special metaphysical grounds (§35.5). Kant's new definition of metaphysics and his claim that matter is lifeless converge

[23] A182, 189, 211, 344–66; B224, 232, 256, 402–22.

[24] Though neither Guyer nor Melnick state precisely this implication of the conjunction of the Analogies and the Paralogisms, both have stressed the fundamental importance of outer intuitions of extended, enduring substances in Kant's doctrine of determinate judgments about objects (Guyer, *Claims*, 169, 292–329; Melnick (1989, 175–88, 205–7, 276–81, 534–43)). Melnick devotes more attention than Guyer to the arguments of the Paralogisms, and does so in direct connection with the Analogies and Refutation of Idealism.

in his newly formulated distinction between the transcendental causal thesis, every event has a cause, and the metaphysical causal thesis, every physical event has an external physical cause (§35.6).

35.1 *Kant's new definition of "special metaphysics"*

In contrast with the general metaphysics provided by the transcendental *Critique*, which officially holds of any objects of possible experience whatever, in the *Foundations* Kant introduces a distinct concept of "special metaphysics," which takes a given empirical concept and seeks to determine that concept further *a priori* and thereby to determine the basic principles and range of knowledge based on that concept:

> [Special metaphysics of nature] occupies itself with the special nature of this or that kind of things, of which an empirical concept is given in such a way that besides what lies in the concept, no other empirical principle is needed for cognizing the things. For example, it lays the empirical concept of a matter or of a thinking being at its foundation and searches the range of cognition of which reason is *a priori* capable regarding these objects. Such a science must still be called a metaphysics of nature, namely, of corporeal or of thinking nature; however, it is then not a general but a special metaphysical natural science (physics and psychology), in which the aforementioned transcendental principles are applied to the two species of sense-objects.
> (*MAdN* 4:470.1–12)

This passage closes by mentioning the application of transcendental principles to "the two species of sense-objects." This recalls the formulation Kant gives of "special metaphysics" in the first *Critique*, the "Progress in Metaphysics," and *Prolegomena* §15.[25] However, this passage begins by explaining that this "application" does not concern any group of *objects*, but instead concerns the "empirical concept" of a group of objects, where that *concept* suffices for, and is subjected to, further *a priori* determination. This is the essential point of Kant's Critical metaphysics. The opening and closing of this passage are not inconsistent, provided one stresses the occurrence of "species" in the last line, where the relevant species is specified by the concept of the kind of object in question, so that the concept of that *species* of object (rather than the members of that species) is subject to *a priori* metaphysical explication.

There are passages in the first *Critique* that foreshadow this way of defining special metaphysics. However, none of them mention a given empirical concept. For example, Kant mentions that universal natural science is built on certain basic experiences, that the metaphysics of nature

[25] See §33 above and the passage quoted below in note 27.

contains all pure principles of reason based on mere concepts (to the exclusion of mathematics) for the theoretical knowledge of all things, and that the physiology of pure reason considers nature as the summation of given objects.[26] These last two characterizations are closest to the one just quoted from the *Foundations*, but on the subsequent page Kant states quite explicitly that this immanent physiology is strictly *a priori*.[27] By restricting special metaphysics to the treatment of strictly *a priori* conditions, this passage specifically excludes basing special metaphysics on a given empirical concept, which is precisely what Kant does in the *Foundations*. Furthermore, the new definition of a metaphysical principle, and its distinction from a transcendental principle, first given in the *Foundations*, is precisely the one Kant states again in the published introduction to the third *Critique*.[28]

35.2 *"Special metaphysics" in the first* Critique

Above I noted (§§33, 35.1) that Kant officially contrasts the "general metaphysics" of the first *Critique* and the "special metaphysics" of the *Foundations* in terms of the givenness of objects or lack thereof: general metaphysics provides an *a priori* analysis of concepts of objects in general, apart from any objects that may be given (though not apart from the *a priori* forms of intuition through which they can be given), while special metaphysics applies those concepts to either of the two kinds of objects that may be given, inner or outer objects respectively. This official contrast, however, matches neither Kant's official definition of special metaphysics, nor the development of his actual transcendental and (special) metaphysical analyses.[29] In both the *Foundations* and in the preface to the third

[26] A172/B213, A841/B869, and A845–6/B873–4; 3:155.26–7, 544, and 546–7, respectively.

[27] "Immanent physiology, on the other hand, views nature as the sum of all objects of the senses, and therefore just as it is given us, but solely in accordance with *a priori* conditions, under which alone it can ever be given us. There are only two kinds of such objects. 1. Those of the outer senses, and so their sum, *corporeal nature* . . . The metaphysics of corporeal nature is entitled *physics*; and as it must contain only the principles of an *a priori* knowledge of it, *rational physics*" (A846/B874; cf. A847–8/B875–6).

[28] *KdU* 5:181.15–20; quoted below, p. 145.

[29] If there is a problem with Förster's (1989b; 2000, chs. 3, 4) analysis of Kant's shifting plans for transcendental philosophy and critical metaphysics, it is that he pays attention too exclusively to Kant's direct statements about his official aims and methods and gives insufficient attention to Kant's execution thereof. Consequently, Förster's account of the shifts in Kant's views, especially between the two editions of the *Critique*, overemphasizes the apparent innovations because he fails to acknowledge the great extent to which Kant's revised aims and methods reflect and emphasize elements in his views already present, but perhaps not always clearly stressed or identified, in earlier stages. The present discussion concerns an important case in point.

Critique, Kant defines special metaphysics in terms of the *a priori* analysis of an *empirical concept* rather than in terms of objects that may be given.

It is important to recognize that the first *Critique* also contains, not incidentally but centrally, the *a priori* analysis of several "empirical" concepts: the concepts of "movement" (*Bewegung*) and "alteration" (*Veränderung*). Like the concept, "matter as the moveable in space," the concepts of "movement" and "alteration" are empirical, *not* in the sense that they must be learned on the basis of generalizations from experience (that would thwart Kant's transcendental and metaphysical analyses from the start), but in the sense that their conceptual contents inherently refer to a plurality of (two or more) distinct appearances in our pure forms of intuition, space or time (or both). Kant defines "pure" *a priori* judgments in terms of judgments that are altogether independent of experience.[30] The inclusion of empirical concepts in *a priori* judgments and their analyses thus introduces a certain element of *im*purity into Kant's *Critique of* Pure *Reason*. The centrality of those concepts (alteration and motion) for his analysis of causal judgments makes such impurity ineluctable, though it also makes Kant methodologically nervous. Notice, for example, that in the second edition Kant first denies that the judgment that all alterations have causes is pure, because the concept "alteration" is empirical, though only two pages later he claims that this judgment is pure.[31] The second edition also omits two sentences defining "purity" in connection with Kant's explanation of the idea of a critique of reason.[32]

The presence of such "impure" *a priori* concepts and judgments within Kant's *transcendental* analysis raises a bevy of issues (Cramer 1985). The following points suffice here. Kant distinguishes at least three kinds of metaphysics. One is pre-Critical rationalist metaphysics that purports to provide *a priori* knowledge of things (in) themselves. Another is the application of "general metaphysics" to a given kind of object. A third is the *a priori* explication of certain kinds of empirical concepts. The first *Critique* aims to proscribe the first kind of metaphysics,[33] while grounding

[30] *E.g.*, A10–11, 4:22.20–30; B2–3, 3:28.19–27; A20/B34, 3:50.15–16.

[31] B2–3, B5; 3:28, 29, respectively. Cf. B48–9, 59, A41/B58, B155 note; 3:59, 64, 121–2; *Prol.* §15, 4:294–5; *MAdN* 4:482.

[32] Cf. A11, 4:22.21–6; B24, 3:42.30–43.2.

[33] Rather than destroying or banishing this kind of metaphysics altogether, Kant's aim is to determine the extent to which it can be "scientific." This may divide this kind of metaphysics into two, pre-critical and Critical, or transcendent and immanent. Ameriks (1992b) argues convincingly that Kant's lectures on metaphysics show that Kant retained far more substantive views within traditional metaphysics than has often been supposed.

the second. The fact that both it and the *Foundations* contain metaphysics in the third sense (the *a priori* metaphysical explication of certain empirical concepts) brings their methods very close together. This convergence is reinforced once one recognizes, *per* the Paralogisms, that there can be no application of "general metaphysics" to any domain of inner objects, there can be no "physiology of inner sense" (below, §61.2). The "general metaphysics" of the first *Critique* applies positively, not to "nature in general," but only to nature as a totality of spatiotemporal objects.[34] Because the first *Critique* does contain metaphysics, in the sense of *a priori* analysis of empirical concepts, ineluctably and centrally, Kant's use of that kind of metaphysics in the *Foundations* to supplement the first *Critique* is not, *prima facie*, objectionable.

35.3 *The lifelessness of matter*

The *Foundations* introduces several important doctrinal clarifications into the Critical edifice concerning matter and the status and content of our concept of matter.[35] The most important new point of doctrine (for present purposes) is Kant's detailed attention to the fact and the importance of the lifelessness of matter. Only once in the first *Critique* does Kant mention lifelessness as part of the *concept* of matter. In the Doctrine of Method (far removed from the Schematism, where he says nothing about it) Kant explicates the concept of matter as "impenetrable lifeless extension." He calls this the "mere" (*bloßen*) concept of matter, and the context contrasts this concept with empirical principles and experience in a way that strongly suggests that he regards this mere concept as *a priori* (A847–8/B875–6, 3:547–8).

Kant is quite serious about matter being intrinsically lifeless. On the one hand, Kant explains living beings explicitly in dualist terms (*MAdN* 4:544.7–19). On the other hand, his view is consistent with biology as a natural science. Organic beings are subject both to physical laws and to further biological laws. Physics focuses only on some characteristics of

[34] By "positive" application I mean Kant's defense of positive, substantive principles concerning commonsense and scientific synthetic judgments *a priori* regarding spatiotemporal objects and events. Kant's *Critique* applies "negatively" across the domain of human experience, proscribing transcendent metaphysics, rationalist psychology, and causal empirical psychology. (These last two are discussed below, §61.)

[35] Kant discusses the lifelessness of matter in some precritical writings. Adickes (1924, 2:245–6) pointed out that Kant maintains the lifelessness of matter in his essay on lunar volcanoes (8:75–8), but opted for a form of hylozoism in his "Universal Natural History" (1:264.21–3) and in his essay on the basis for demonstrating the existence of God (2:148.24–6).

matter, and hence only on some characteristics of material beings, including those (complex) material beings that happen to be organic. While it is an empirical question whether any of the beings we observe consist solely of matter, or if some (or even all) are composites of matter plus animate substance (*per* Kant's dualist account of life), that is irrelevant to the issue of whether the material aspects of these beings are subject to the laws of physics. If matter is inherently lifeless, then it is subject to the law of inertia, and so are the material bodies of living creatures.[36]

The question is how to prove *a priori* that matter as such is lifeless. In the first *Critique* Kant argued for the intrinsic lifelessness of matter on purely *a priori* transcendental grounds (§35.4). Kant apparently recognized that his argument was inadequate, for he argued again for the same conclusion on the special metaphysical grounds provided by the *Foundations* (§35.5). I examine each of Kant's arguments in turn.

35.4 *General metaphysics and the lifelessness of matter*

In "The Amphiboly of the Concepts of Reflection," Kant argues that no phenomenal object can have "absolutely inward" determinations, that is, psychic characteristics, including the power of self-determination. This critique of Leibniz is Kant's most direct effort in the first *Critique* to demonstrate that matter is intrinsically lifeless. Van Cleve (1988, 237) highlights the main points of present concern. He notes that Kant's argument against the existence of monads within the phenomenal realm turns on showing that no phenomenal entity has "absolutely inward" properties, though such entities may have "comparatively inward" properties. "Absolutely inward" properties involve "no relation whatsoever (so far as existence is concerned) to anything different from itself"; these are all psychic properties. "Comparatively inward properties" consist in turn of further "outer relations."[37] The crux of Kant's argument against the existence of monads within the phenomenal realm turns on showing that, because phenomenal substances are always extended in space, they can only have comparatively, but not absolutely, inward properties. Proving this

[36] Kant cannot accept the half-way measure of supposing that some matter is lifeless while some is vital. If this were the case, it would not be a metaphysical truth about matter *as such* that it is lifeless, it would instead be an empirical issue. Kant thinks (perhaps mistakenly) that this issue can and must be settled metaphysically, or even transcendentally, but in any event *a priori*, not *a posteriori*.

[37] A265/B321, A277/B333; 3:224.25–7, 217.30–1; Van Cleve (1988, 234).

would *ipso facto* also prove that matter as such is lifeless. Kant supports this inference with the following claim:

> All that we know in matter is merely relations (what we call the inner determinations of it are inward only in a comparative sense). (A285/B341, 3:229.10–12)

As Van Cleve (1988, 238) notes, Kant "thinks it is possible . . . for a phenomenal substance to be constituted entirely by relations." Consequently, phenomenal substances have no absolutely inward, that is, nonrelational characteristics.

Kant's *a priori* thesis that "matter *as such*" is lifeless requires the premise that, *necessarily*, phenomenal substances are constituted entirely by relations. This strong modal claim is the direct consequence of Kant's view that to know something *a priori* is to know it on the basis of its mere possibility, where its possibility is constituted by a unique set of necessary conceptual and intuitive conditions.[38] However, Kant's argument in the "Amphiboly" only supports the modally weaker conclusion that, *possibly*, phenomenal substances are constituted entirely by relations. What, then, is Kant's evidence for the assertoric premise that phenomenal substances *are* only constituted by relations? The claim quoted just above, that "all that *we know* in matter is merely relations." Van Cleve recognizes the weakness of Kant's argument in the "Amphiboly" against monads in the phenomenal realm:

> What the argument clearly needs is the premise that the only absolutely inward . . . properties *there are* are psychic; but all that Kant actually asserts . . . is the thesis that the only such properties *we know of* are psychic. This, of course, opens up a gap, for there may well be absolutely inward properties of which we can form no notion.[39]

This is to say, Kant's purely transcendental grounds for demonstrating the lifelessness of matter are insufficient; indeed, less sufficient than Van

[38] A96, A136/B175 (quoted below, p. 167), A148–9/B187–8, A156–8/B195–7, A222–4/B269–72; *MAdN* 4:470.18–35; *Prol.* §4 4:274.11–14. Buchdahl (1969, 1992) interprets Kant as being committed to much weaker modal claims, according to which phenomena might be rendered possible by alternative sets of conditions. However, his interpretation is in this regard a radical reconstruction, rather than an interpretation, of Kant's Critical philosophy (Westphal 1998b).

[39] Van Cleve (1988, 244). I have omitted his inclusion of dispositional properties as a possible case of nonrelational properties. He (1988, 243) suggests that dispositions are nonrelational because they may be defined or may exist independently of their causal effects. However, dispositions are relational because they are both constituted and defined in relation to their conditions of occurrence, or "triggering conditions." Dispositional properties may *exist* without relating to anything else (if their triggering conditions happen not to occur), but they cannot be defined or constituted without relation to anything else, *viz.*, possible triggering conditions. Nor can they be discovered or identified or otherwise known in isolation.

Cleve notes: the premise Kant needs is that the only absolutely inward properties *there can be* are psychic. In the *Foundations* Kant recognized that the issue of the lifelessness of matter is metaphysical, and not purely transcendental, and can be resolved (if at all) only through the metaphysical explication of an empirical concept of matter. This invokes Kant's "special metaphysics."

35.5 *"Special metaphysics" and the lifelessness of matter*

In the *Foundations*, Kant grants that this concept of matter is empirical, but now its lifelessness takes on added importance: if matter is not lifeless, there can be no Newtonian mechanics.[40] Kant's second law of mechanics is that all changes in matter have external (material) causes. He takes this to be equivalent to, or at least to include, Newton's first law of inertia, that bodies continue in their present state of motion (including direction) so long as they are not affected by any other force. His proof assumes the principle, purportedly defended in the first *Critique*, that all changes have causes, and aims to prove only that changes in matter have external causes. Like all changes, a change in a material body's motion must have a cause. Kant's argument for why such a cause must be external to the body rests on his accounts of space and of matter as occupying space. Matter, as a mere object of outer sense, has no other determinations than external relations in space. In particular, matter has no absolutely internal (*schlechthin innere*) determinations or determining grounds. Consequently, matter undergoes no changes except by motion, and the cause of a change of a material body must be external (*MAdN* 4:543.22–34).

Kant's phrase "absolutely internal" determinations or determining grounds refers to desires, feelings, or thoughts; in short, to psychological or vitalist grounds of motivation (cf. A284/B340, 3:228), a meaning Kant indicates in his gloss on "life" in the Remark to his proof of his second law of mechanics (*MAdN* 4:544). He reiterates there that no such predicates pertain to the representations of outer sense, and thus not to matter *qua* matter. Consequently, matter as such is lifeless. This is the main point, Kant says, of the law of inertia, and this law, together with the law of permanence of matter, is the necessary foundation for natural science. To reject these principles is to accept hylozoism, which is the death of all natural philosophy (*i.e.*, natural science) because living forces can be

[40] *MAdN* 4:544.23–6; see §38.5 below.

neither quantified nor predicted. This is Kant's "special metaphysical" argument for the intrinsic lifelessness of matter. If sound, it proves Kant's metaphysical thesis that all changes in material bodies are, directly or indirectly, externally caused. This conclusion cannot be reached on pure transcendental grounds; it can only be reached, if at all, on special metaphysical grounds.

35.6 *"Special metaphysics" and the concept of causality*

It is significant that the contrast between the thesis that all changes have causes, and the thesis that all changes of matter have external physical causes, is precisely the one used in the published introduction to the third *Critique* to illustrate the difference between transcendental and metaphysical principles:

> A transcendental principle is one by which we think the universal *a priori* condition under which alone things can become objects of our cognition in general; on the other hand, a principle is called metaphysical if it is one by which we think the *a priori* condition under which alone objects whose concept must be given empirically can be further determined *a priori*. Thus the principle by which we cognize bodies as substances and as changeable substances is transcendental if it says that a change in them must have a cause; but it is metaphysical if it says that a change in them must have an *external* cause. For in order for us to cognize the proposition *a priori* in the first case, we must think the body only through ontological predicates (pure concepts of the understanding), *e.g.*, as a substance; but in the second case we must base the proposition on the empirical concept of a body (as a moveable thing in space), after which we can, however, see completely *a priori* that the latter predicate (of motion that must have an external cause) applies to the body. (*KdU* Einl. 5:181.15–31; tr. Pluhar)

In this passage, Kant clearly states the new definition of metaphysical principle first introduced in the *Foundations*, namely that a metaphysical principle takes a given *empirical* concept and determines it further *a priori*, and he illustrates it with the second law of mechanics from the *Foundations*. The externality of physical causes rests on the metaphysical explication of the empirical concept of matter. This passage provides my main reason for labeling the thesis that every event has a cause the "transcendental" causal thesis, and the thesis that every physical event has an external cause the "metaphysical" causal thesis. We can now relate the *Foundations* to the heart of the Analytic of Principles (in either edition) of the first *Critique*.

36 THE ANALOGIES OF EXPERIENCE AND EXTERNAL CAUSATION

The Analogies of Experience purport to provide principles to regulate the application of pure concepts (the Categories) to appearances.[41] Correlatively, the Analogies establish a set of conditions objects must meet if we are to be able to make determinate judgments about them, and thereby to identify and know them. In particular, they aim to regulate the application of the transcendental causal thesis, that all changes have causes, to the objects and events we experience. However, the Analogies need, not simply this transcendental causal thesis, but the more specific and distinctly metaphysical thesis that all physical events have external physical causes. Understanding this point requires care. Kant's arguments in the Analogies certainly use a causal concept connecting mutually distinct relata. That is a direct consequence of the fact that the Principles of Experience bring unity to our experience in an analogy with how synthetic judgments bring unity to distinct concepts.[42] The important issue concerns just what these distinct relata are. Kant's discussion in the Analogies

[41] "The *Analytic of Principles* will accordingly only be a canon for the *power of judgment*, which teaches it to apply the concepts of the understanding, which contain the condition of rules *a priori*, to appearances" (A132/B171, 3:131.4–7); "An analogy of experience will thus only be a rule, according to which unity of experience . . . shall arise from perceptions, and which, as a principle [governing] objects (appearances), is only valid *regulatively*, not *constitutively*" (A179–80/B222, 3:161.2–6). These passages forestall mistaking a terminological issue for a substantive one. Kant's terminology shifts between "principle" and "concept." In the passages quoted from the third *Critique* (above, p. 145) and from the *Foundations* (above, p. 138; below, p. 158) Kant speaks of "principles" when he labels the thesis, that every change in a substance has a cause, a "transcendental principle," and the thesis, that every change in a substance has an external cause, a "metaphysical principle." What Kant in these passages calls a "transcendental principle" quite plainly corresponds to the category or transcendental *concept* of causality from the first *Critique*. The "principles" defended in the Analogies of Experience are, strictly speaking, transcendental principles that regulate the application of *a priori* concepts, the categories, to appearances. I contend that the principles Kant defends in the Analogies, based on the transcendental causal thesis that every event has a cause, are insufficient and unjustified as they stand, and that their justification requires the more specific metaphysical causal thesis, that every physical event has an external physical cause.

In the second passage just quoted, Kant calls the Analogies regulative but not constitutive. The Analogies do have a constitutive role to play in specifying the conditions of possible experience (cf. B239–40), a point emphasized in the Refutation of Idealism. The principles of the Analogies regulate our judgments by which we identify particular causal relations; identifying at least some of these relations is constitutive for the very possibility of self-conscious experience, for such judgments are necessary for identifying particulars in our environs, and we can be self-conscious only by distinguishing ourselves from those particulars (see B239–40, and below, §§62, 63). The constitutive role of the Analogies is reinforced by the link I point out here between the *Foundations* and the first *Critique*, since that link is via the Analogies; see below, §39.1.

[42] Kant says directly that synthetic judgments forge relations between completely distinct concepts (A154/B193–4, 3:143.30–2). In apparent reference to this doctrine he later says: "By these principles [*sc.*, the principles defended in the Analogies], then, we are justified in combining appearances only according to an analogy with the logical and universal unity of concepts" (A181/B224, 3:161.31–3). (This is an important reason for Kant's title "Analogies of Experience"; also see Guyer, *Claims*, 67–70).

of Experience shifts between perceptions, appearances, events, conditions, or states of affairs, objects, and substances. There must be a change in perceptual appearances or perceived states of affairs for us to have any occasion to consider whether these changes are causal. Kant's issue is whether these perceived changes have an objective basis.[43] Kant formulates the causal principles he uses in the Analogies in terms of changes in our perception or apprehension. However, Kant aims to prove that causal interaction between distinct physical substances is a necessary condition for our making determinate judgments about them. Showing that the Analogies of Experience aim to establish causal interaction between distinct physical substances as a condition of our knowledge of them, and assessing the validity of that proof, require three considerations. First, the main principle of the Analogies is only the transcendental causal thesis (§36.1). Second, Kant aims to prove, on the basis of that thesis plus transcendental analysis of the conditions for self-conscious human experience, that causal interaction between distinct physical substances is a necessary condition of our possible experience of objects (§36.2). Finally, this aim is fundamental to the Analogies as a whole, because they form a tightly integrated set of principles (§36.3). Because Kant's thesis, that all physical causality is external and transeunt, is metaphysical, this reveals an ineliminable metaphysical presupposition of the Analogies (§37). Examining the status of Kant's claims about the plurality of physical objects and about the externality of their causal relations reveals another metaphysical presupposition of the Analogies (§38).

36.1 *The Analogies of Experience and the transcendental causal thesis*

Kant formulates the main principle of the Analogies as a whole in terms of the transcendental causal thesis that every event has a cause:

> All appearances are, as regards their existence, subject *a priori* to rules determining their relation to one another in one time. (A176–7, 4:121.22–4)

> Experience is possible only through the representation of a necessary connection of perceptions. (B218, 3:158.15–17)

Similarly, in the Second Analogy Kant states:

> The object is *that* in the appearance of which contains the condition of this necessary rule of apprehension. (A191/B236, 3:169.14–16)

[43] "the mere succession in my apprehension, if it is not determined through a rule in connection with something preceding, justifies no succession in the object" (A195/B240, 3:171.16–9, 2nd Analogy).

Kant also states that

> If . . . we experience that something happens, we in so doing always presuppose that something precedes it, on which it follows according to a rule.
> (A195/B240, 3:171.14–16)

That perceptions need to be connected in order for us to have experience is a function of the accidental order in which they occur to us, and that is a function of their mutual independence:

> In experience, however, perceptions come together only in accidental order, so that no necessity determining their connection is or can be revealed in the perceptions themselves. For apprehension is only a placing together of the manifold of empirical intuition; and we can find in it no representation of any necessity which determines the appearances thus combined to have connected existence in space or time.
> (B219, 3:158.25–159.2)

Indeed, the mutual externality of the perceptions, appearances, or states of affairs to be related by the transcendental concept of causality is virtually a corollary of the successive nature of appearances and our apprehension of them; passages indicating this and similar externality could be compiled at will, especially from Kant's examples of viewing the house and of the ship moving downstream.[44]

However, the mutual distinctness of perceptions, appearances, or states of affairs does not of itself (*pace* Heraclitus and Hume's official ontology of impressions) entail the mutual distinctness of substances. In the first two Analogies, Kant remains scrupulously agnostic about the number of physical substances. In the Third Analogy Kant settles firmly on a plurality of substances, and he retains this plurality in the Refutation of Idealism and in the General Remark on the System of Principles. Kant aims to prove that causal interaction among distinct physical substances is a necessary condition of our possible experience of their coexistence. This turns out *also* to be a transcendental condition of our making determinate judgments about events occurring within any single object (§§2.5, 36.3, 37).

36.2 *The Analogies of Experience and causal interaction*

Guyer, following the lead of Caird and Paton, notes that the Third Analogy is essentially anti-Leibnizian, since Kant there argues for genuine

[44] A179/B222, A182/B225, A199/B244, A200–1/B245–7, B233–4, A190–1/B235–6, A192/B237, A194/B239–40, A204–6/B250–1, A212–13/B258–9, A217/B264, cf. A227–8/B279–80.

interaction as opposed to mere synchrony.[45] While correct, this is only part of the issue. In the background lie two related issues, one metaphysical and one physical. The metaphysical issue is occasionalism, the physical issue is corpuscularism.

Occasionalists (such as Cordemoy, Geulincx, La Forge, and Malebranche) held that action requires purposiveness, which requires consciousness. Since matter is not conscious, it cannot act, and so is inert. Consequently, all changes in matter must result from divine action upon material things.[46] Leibniz held that action requires, not consciousness, but appetition. He attributed appetition to every genuine substance. However, he ruled out real interaction between substances on the metaphysical ground that each existing substance is complete unto itself; consequently nothing can be either added to it or subtracted from it, and so no other substances can causally affect it. All apparent interaction is merely synchronous internal change established by God's creation of a completely harmonious universe.

These metaphysical views comported well with the physical science of their day, which was corpuscular. Corpuscular theories of matter rejected Aristotelian accounts of natures to account for change. According to corpuscularism, matter is discrete, inert, and consists solely of extension, and perhaps impenetrability. Because matter is inert, all changes of matter must result from some nonmaterial cause, either directly or indirectly; no forces are inherent in matter.[47] The postulation of inert matter fared ill as science developed. Eighteenth-century physicists lost their Cartesian and corpuscular aversions to ascribing gravity as a physical force to matter, and the development of chemistry, beginning with Newton and extended by Black, Priestley, and Lavoisier, required ascribing other active forces to matter.[48] The alternative theory of matter was dynamic; it attributed active forces or dispositions directly to matter. First unambiguously advocated in

[45] *Claims*, 268 and note 5 (on 451).

[46] For a summary account, see Doney (1967, 41–2).

[47] The Leibnizian and corpuscular background to Kant's dynamics in the Third Analogy was brought into focus for me by Edwards (2000). I am grateful to him for sharing his very stimulating work with me in advance of its publication. He makes plain that what I sketch here is only a small part of the background; he shows that already in the Third Analogy Kant begins to replace Descartes's plenum of extended matter with a plenum of dynamic interaction among objects structured by forces; see Edwards (2000), especially 86–8.

[48] For discussion of the chemical revolution in connection with Kant, see Friedman (1992a, 264–90). At the time, however, the shift from Stahl to Lavoisier was regarded as a development, not an alternative; see Gough (1988), Friedman (1992a, 283 note 98), Ferrini (2004, note 32).

chemistry, it lent itself directly to Newtonian physics, since it afforded a way to understand gravitational force as inherent in matter, and thus removed one prop supporting mechanical explanations of gravity. (The other prop was the problem of action at a distance.)

This point deserves both emphasis and clarification. I say that the dynamic concept of matter was first unambiguously advocated in chemistry, even though Newtonian mechanics ultimately ascribes gravitational force to matter. Throughout his life, out of deference to the Cartesian tradition he opposed, and in accord with the corpuscular tradition to which he belonged, Newton insisted that "gravity" is only a mathematical, and not a physical, characteristic of matter.[49] Newton was deliberately evasive in formulating his *Quaeries* in the *Opticks* (1717). It remained for eighteenth-century physicists to rescind their corpuscular and Cartesian qualms about active forces in matter and to take Newton's famous *Quaery* 31 at face value. From the beginning of his reflections on physics, Kant understood Newton's theory to ascribe gravitational force directly to matter (*e.g.*, 1:475–6). Friedman (1992a, 139, 153–9) points out that Kant recognized that Newton could not hedge his ascription of gravity as a physical force to matter without jeopardizing his theory. However, Friedman (*e.g.*, 1992, 231–4) elsewhere overlooks the extent to which Newton's hedges were the object of Kant's criticism; the "Newton" Kant defends in opposition to Huygens is an improved, unqualifiedly dynamical Newton. Carrier (1991) and Waschkies (1991) rightly stress that "Newtonian principles of explanation" at that time meant, not Newtonian laws of motion, but explanation in terms of a postulated geometrical physical microstructure.[50] In the first *Critique* and the *Foundations*, Kant aimed to provide a metaphysical theory of matter that would remove the metaphysical onus against ascribing gravity directly to matter as one of its two fundamental constitutive forces, and to provide a more integrated and scientifically fruitful concept of matter than corpuscularism.[51] Newton regarded impenetrability as a fundamental characteristic of body, while Descartes held that it derives from the primary characteristic of extension.[52] Kant opposed Newton on this count; he contends that "impenetrability" is derivative from the fundamental repulsive force constitutive of matter

[49] See Koyré, (1965, 149–63 but cf. 110), and Hall & Hall (1960).

[50] Cf. Brittan (1986, 75–6, 79, notes 19 and 24), who directly points out Friedman's error in this regard; also Duncan (1986, 273–7).

[51] A172–5/B214–16, 3:155.32–157.18; *MAdN* 4:523–4, 532–5.

[52] Newton (1952, 389, 400; 1962, 106); Descartes: AT 5:269, 342; CSM 3:361, 372.

(*MAdN* 4:501–2). In this regard he also opposed Descartes, who refused to ascribe active powers to matter.[53] In developing his dynamic account of matter, Kant also sought to dispense with the interstitial voids that, according to corpuscularism, occur in the compounding of gross bodies and can account for different densities of materials. Kant's account thus opposed Newton again, though it also provided no solace for the Cartesian tenet of a material plenum.[54] Kant's dynamic theory of matter preceded the chemical revolution, and there is some reason to believe that Kant's theory had a positive influence on it, and much more so later on Faraday's development of electrostatic field theory.[55]

Kant advocated a very strong form of the dynamic account of matter, arguing in the *Foundations* that even mechanical interaction presupposed dynamic interaction and that matter essentially consists of forces.[56] These specific issues are strictly the domain of the *Foundations*. However, the groundwork for resolving that issue in favor of dynamism is in the Third Analogy. In the Third Analogy, Kant specifically addresses the point that "*Gemeinschaft*" can mean either *communio* or *commercium*, and that he means it in this latter sense (A213/B260, 3:182.27–31). The Third Analogy is widely thought to concern only reciprocal causality within dynamic systems, such as our solar system. However, in Kant's view such systems are only the most obvious example of the general phenomenon of causal influence. One of his *Reflexionen* on physics and chemistry makes this plain:

> Principle. A substance in the world is the cause of a change in another substance only insofar as it itself changes; hence it is causally effective only through a principle of community. The ground of all community is composition or connection by one or another force, through which substances determine each other reciprocally. (1773–75, 14:173.1–6)

Kant's point is that causal action does not occur without the causally active substance itself changing in some regard; hence causal influence counts as interaction, or community – in the sense of *commercium*. Similarly, Kant's proof of his third law of mechanics borrows the principle from the first *Critique*, "that all external action (*Wirkung*) in the world is *interaction*

[53] Descartes's views of force in relation to matter are ambiguous; see Garber (1992, 293–9).

[54] On Newton's corpuscularism, see Mandelbaum (1964, 66–8); Newton's (1952, 389–90, 400) corpuscularism allowed for voids within material bodies; he and his followers opposed Descartes's material plenum (Koyré 1965, 61); on Descartes's material plenum, see Garber (1992, 130–6).

[55] See Carrier (1990) and Williams (1965, 59–73, 125, 137f., 148f).

[56] *MAdN* ch. 2, "Metaphysical Foundations of Dynamics," Proposition 1: "Matter fills a space, not by its mere existence, but by a special moving force" (4:497).

(*Wechselwirkung*)" (*MAdN* 4:544.35–6). This principle comes from the Third Analogy. Newton's law of the equality of action and reaction is, in Kant's view, an instance of this general metaphysical principle (*MAdN* 4:544.3–549.4). To give the issue its proper label, in the Third Analogy Kant expressly defends a transeunt account of causality, according to which one material substance causally affects another, bringing about a change in it.[57]

The three Analogies form a very carefully articulated, incremental proof of transeunt causality.[58] The First Analogy defends the thesis that substance persists through changes of accidents. The Second Analogy defends the thesis that changes of accidents must be rule-governed. However, the Second Analogy does not treat causal relations between numerically distinct substances; that issue is reserved for the Third Analogy. The First and Second Analogies remain scrupulously agnostic about the number of substances. While there are passages in the Second Analogy that discuss one object, thing, or substance as if it could be one among many, the changes it treats are always changes of one substance (see §38.2). Moreover, throughout the Second Analogy Kant uses only the transcendental causal thesis, which concerns solely rule-governed succession, and does not require that distinct *substances* stand in such relations. This was deliberate on Kant's part. At the beginning of the B Deduction, in connection with the Table of Categories, Kant warns us that the third relational category, community, is not merely derived from its two predecessors (inherence-subsistence and causality) because one cannot

> by simply combining the concept of a cause and that of a substance, at once have an understanding of *influence*, that is, how a substance can be the cause of something in another substance. [For this,] a separate act of the understanding is required. (Bііі, 3:96.20–4)

Kant is quite right about this; causal influence, transeunt causality between substances, is a distinct concept from those of substantiality and of causality as rule-governed succession. Seeing this makes plain that the Third Analogy is crucial to Kant's philosophical project, not only as a response to Leibniz and the occasionalists, and not only as a defense of an improved, noncorpuscular Newtonianism, but as a response to Hume and his denial

[57] I deliberately retain the archaic spelling of "transeunt" because it unambiguously connotes the intended sense of "passing out or operating beyond itself; transitive; opposed to *immanent*. (Often spelt *transeunt* for distinction from sense 1 [*sc*. Passing by or away with time])" *OED*.

[58] This incremental progression among the three Analogies has been overlooked in the literature.

that anything (known) about the cause brings about the effect, that is, to Hume's denial of, or skepticism about, transeunt causality.[59]

This is not coincidental; Hume's attack on transeunt causality borrowed heavily from occasionalism. Before him, occasionalists argued against transeunt causality on the grounds that we have no definite idea of such a cause, and that we obtain no such idea from our own will because we do not know how our "will" brings about its behavioral effects. Rule-governed succession is stock-in-trade among the occasionalists, Leibniz, Hume, Kant – and Spinoza; transeunt causality is not, and Kant intends and attempts to defend it.[60] Part of his defense lies in criticism of the metaphysical principles that support occasionalism, metaphysical monadology, Spinozism, and concept empiricism. By itself, however, criticism of opposed views neither establishes the conceivability of transeunt causality, nor justifies belief in its occurrence. That requires positive explication and defense. The transcendental portion of Kant's defense of transeunt causality lies in the Third Analogy. (I say "transcendental portion" because the issue is taken up again in the *Foundations*; see §37.) In sum, the crux of Kant's response to Hume's causal skepticism is found only in the Third Analogy, more precisely, only by taking the three Analogies as an integrated set. I say that this is the crux of Kant's account, because proving that the concept of cause is *a priori* in a general sense only takes a paragraph (above, §18). The crux of Kant's account is to show that we can use this *a priori* concept legitimately in cognitive judgments.

My references to occasionalism as one of Kant's issues in the Third Analogy is not spurious: Kant refers to it directly in the Second Analogy. In the midst of discussing changes of state, Kant suddenly refers to the origin of a substance or a new state of affairs out of "a foreign cause." To be "foreign" in the relevant sense, this cause must be nonphysical and transphenomenal, and Kant calls such an origin "creation." He allows that the existence of things in themselves

[59] The fact that Kant defends a transeunt account of causality, according to which substances mutually interact because even the causal agent is effective only by undergoing some change itself (*per* Kant's *Reflexion*, quoted just above), provides the key to understanding the point of "mutual interaction" in the thesis of the Third Analogy (A211/B256). Note that the "thoroughgoingness" of this interaction, announced in the thesis, must be understood to include the "mediated community" or interaction represented by, *e.g*, light reflecting off various bodies (A213–14/B260–1, 3:182.27–183.12). This also indicates the main thrust of Kant's Critical advance over his earlier account of transeunt causality in terms of physical influx. On Kant's earlier account of causality, see Laywine (1993).

[60] Hume denies we have any idea of the "necessity" involved in causal relations, but he also grants that there are known uniformities and that "chance" has no place in nature. His issue concerns our ignorance, more than the nature, of causal relations (*En* §VI). Kant's defense of transeunt causality in the Third Analogy turns out to be fundamental to his defense of the modal necessity of causal relations in the Second Analogy.

may well depend on "foreign causes." However, he insists that pursuing this possibility would require radical revision of the meanings of terms and that it could never be an object of possible experience.[61] Occasionalism is not the only version of such a doctrine of "foreign causes," but it must be on Kant's mind at this point as one among such views. Only occasionalism holds that a "foreign" cause produces, not substances, but changes of their states, and changes of states of spatiotemporal substances was the topic that led Kant to mention creation by transcendent "foreign" causes.[62] Occasionalism denies transeunt causality between spatiotemporal substances and ascribes all changes of state to God's causal efficacy. The point remains that foreclosing on occasionalist accounts of divine causation as an impossible object of experience does not suffice to prove that transeunt causality among spatiotemporal objects is possible, much less that it is a necessary condition of our possible experience of the coexistence of substances. That remains a distinct, positive aim of Kant's Analogies.

36.3 *The integrity of the Analogies as a set of principles*

In this connection, Guyer's point is crucial: the three Analogies form a tightly integrated set of mutually supporting principles.[63] To summarize, the empirical criterion of succession is lack of reversibility of the type of sequence of appearances produced by one or more objects; the empirical criterion of coexistence is the reversibility of the type of sequence of appearances produced by one or more objects. Determining that either coexistence or succession occurs requires determining that the other does not, and both determinations require that we identify objects that persist through both the real and the apparent changes involved in the sequence of appearances at issue. We can directly perceive or ascertain neither time nor

[61] A206/B251–2, 3:177.23–178.2; quoted and discussed below, §61.2. Note Kant's appeal to semantics.

[62] The fact that Kant here treats creation by transcendent "foreign" causes in connection with changes of states of spatiotemporal substances rules out any specific reference to Leibniz. On Leibniz's account, once individuals are created, their changes are produced by their own natures; Leibniz does not countenance God inserting or removing individuals from a world once it is created. However, it may indicate that Kant is thinking of the progenitor of occasionalism, the doctrine of divine conservation, according to which God recreates each finite substance at each moment of time. (See, *e.g.*, Descartes, "Meditation I," AT 7:48–9; CSM 2:33; it is also discussed in some of the "Objections and Replies.") If so, it may be that Kant here aims to undercut the transcendent metaphysical support for the law of uniform motion Descartes found in the doctrine of divine conservation (see Koyré 1965, 70–6), to set the transcendental stage for the *Foundations* to support Newton's Law of Inertia on special "immanent" metaphysical grounds (4:543–4). On Descartes's relation to occasionalism, see Garber (1992, 299–305).

[63] *Claims*, 168, 212–14, 224–5, 228, 239, 246, 274–5.

(as Kant notes in the Third Analogy) space, and the mere order in which we apprehend appearances does not determine an objective order of objects or events. Consequently, the only condition under which we can determine which states of affairs precede, and which coexist with, which others is if there are enduring substances which interact, thereby producing changes of state in one another. Enduring substances are necessary for us to determine the variety of spatial locations, to determine changes of place, and to determine nonspatial changes objects undergo. To determine whether a change of appearances is a function of one object, previously in view, moving out of view when displaced by another, or instead is a function of one object rotating to reveal a different "side" (aspect), or instead is a function of one spatially stable object undergoing a nonspatial change of state, requires that we are able to identify places, changes of state, and objects that change place or state, and that we are able to distinguish these different kinds of scenario. To make any one such identification requires using and assessing the relevance of all of these distinctions, which requires joint use of all three principles defended in the Analogies. None of the principles defended in the Analogies can stand alone; they all stand together, or they stand not at all.[64]

Before continuing, it is worth noting that the points just summarized can be expected to receive sharply different reactions from different philosophers. Some regard them as virtually self-evident; others want to see "proof," not that Kant held this view, but that we have any reason to think it is true. This is one point at which what is needed is not more argument, but more appreciation of Kant's point. Such appreciation can only be had by reflection – by reflecting epistemically on our own experience of our own capacities to make cognitive judgments by discriminating the different scenarios just mentioned. Identifying an object, otherwise stable, as changing in orientation to us requires that we are able to identify its features or characteristics as coexisting, even though we perceive some of them successively. (This is one point of Kant's example of viewing a house; A190–1/B235–6, quoted above, §11.) This requires that its unperceived features are located elsewhere in space, rather than in time; we are incapable of identifying concurrently existing but unperceived features of physical objects in any other way. This may be an unrestricted necessary truth, that any nonapparent (though perceptible) features of a perceived object or

[64] This is also to say, the weight I am about to place on the Third Analogy, and its ultimate reliance on the *Foundations*, cannot be taken as grounds to follow the common practice among recent commentators of ignoring or rejecting the Third Analogy.

event must have a distinct spatial location from whatever features of the object or event we do perceive. However, the important point here concerns our *abilities* to identify features of objects or events as concurrently existing, even though they are successively perceived. To identify those features in this way also requires, as noted above (§§2.5, 3), that we can and do distinguish this scenario from a transformation of the perceived object, or its replacement by another. Kant's implicit question at such junctures is not, "Might there be some kind of cognizant subject who could identify things otherwise?," but rather, "Are we human beings in fact capable of identifying things otherwise, or is this indeed a fixed requirement of our – of *your* – cognitive capacities?" Answering this question requires what I called above (§§1, 3, 9) epistemic reflection on our cognitive activities and capacities. This reflection is central, not spurious, to Kant's presentation of the Analogies. He indicates the transcendental import of the Analogies quite plainly (B239–40), and his critical rejection of occasionalism (§36.2, end) requires epistemic reflection (cf. A190/B236, 3:168.33–34), in part on semantic issues involved in cognitive reference!

If my summary of Guyer's account seems unconvincing, please reconsider it with these points in mind: the nature and importance of transcendental and epistemic reflection (§§1, 3, 9), the use of epistemic reflection in ratifying Kant's three principles of causal judgment (§§2.5, 3), the point made just above (§36.2) about how the Analogies form an incremental proof of transeunt causality, Kant's occasionalist and Humean opposition, and Guyer's own discussion of the points just summarized (§36.3). As stressed in chapter 1, the most important question about the integrity of Kant's three principles in the Analogies is not whether some being or other might be exempt from them, but whether Kant is right that these principles are required for any possible *human* cognitive judgment. Answering this question requires, in addition to the careful analysis Kant gave it, the transcendental reflection we must devote to these issues and to Kant's analyses, in order to ascertain whether Kant is correct about these principles forming the sole and sufficient basis for our self-conscious experience. The almost universal tendency among commentators to regard the Second Analogy's analysis of rule-governed succession as addressed to causal interaction among distinct substances shows how easily philosophers implicitly import richer commonsense assumptions (here, about causal interactions among things) into much more restricted and rarefied sub-analyses – an important failure of epistemic reflection. All of these points help illuminate, and are reinforced by, the main issue to which I now return, Kant's defense of transeunt causality.

Because the three Analogies form a tightly integrated set of mutually supporting principles, defending transeunt causality is central to Kant's Analogies as a whole, not only to the Third Analogy. Consequently, defending the thesis that matter as such is lifeless is crucial to the Analogies. The validity of Kant's Analogies of Experience requires that changes in material substances are all produced, directly or indirectly (via "relatively inner" determinations), by external transeunt material causes (§35.4, 37). Conversely, Kant's justification for the principles of the Analogies collapses if it is possible that changes in material objects are brought about by "strictly inner" determinations or, in a phrase, if hylozoism is true – or even if it is metaphysically or empirically possible.[65] Can Kant defend transeunt causality by ruling out hylozoism?

37 A METAPHYSICAL PRESUPPOSITION OF THE ANALOGIES OF EXPERIENCE

In Kant's own words, the externality of physical causes, which he expressly attempted to show in the Third Analogy, is recognized in the *Foundations* as a metaphysical, and no longer a purely transcendental, issue. Above I quoted Kant's remark, made in connection with the Table of Categories in the second edition, that causal *influence* between substances is a distinct concept from the concept of causal, rule-governed sequences of changes of states of a substance.[66] I showed (in §36.2) that Kant expressly aimed to defend causal interaction, in the sense of *commercium*, in the Third Analogy as a condition for the possibility of the experience of coexistence, and that the three Analogies stand (or fall) together as a unit. The integrity of the three Principles of the Analogies (§§2.5, 36.3) is important here: since our apprehension is always successive, if we cannot distinguish coexisting objects and their states from successive objects and their states, then we cannot make determinate judgments about the successive states of any one persisting object, much less about a coexisting group of them. The Second Analogy requires the Third, and the Third Analogy most definitely requires external, transeunt causal interaction among distinct physical substances.

In the published introduction to the third *Critique*, Kant specifically says that the thesis "that a change in [bodies as substances] must have an *external* cause" is "metaphysical."[67] This statement reflects the philosophical division

[65] See above, §35.4 and note 38 above regarding Kant's modal claims.
[66] B111, 3:96.20–4; quoted above, p. 152.
[67] *KdU* Einl. 5:181.23–4; quoted above, p. 145.

of labor Kant formulates in the *Foundations*. Kant's third Proposition of "Mechanics" (*MAdN* ch. 3) states his Second Law of Mechanics, that "every change of matter has an external cause" (*MAdN* 4:543.16–17). This is the metaphysical causal thesis. Kant's proof of this thesis in the *Foundations* begins by noting:

> The principle that every change has a *cause* is laid down by general metaphysics; here it shall be only proved about matter, that its change must always have an *external cause*. (*MAdN* 4:543.22–5)

"General metaphysics" refers to the first *Critique* (see above, §§33, 35.1); "here" refers to the *Foundations*. Kant could not make it plainer that the thesis that material change has an external cause requires metaphysical, not merely transcendental, proof. We need not simply take Kant's word about this, we can also see that he is right about this crucial point.[68]

The empirical concept on which Kant bases the otherwise *a priori* proof of the metaphysical causal thesis, that physical events have external causes, is the "empirical concept of a body (as a moveable thing in space)."[69] This statement from the published introduction to the third *Critique* directly reflects Kant's opening statement in the body of the *Foundations*, his first Explication of matter as "the moveable in space" (*MAdN* 4:480.6). In his second Remark on this Explication, Kant explains why this must count as an empirical concept. If the concept of matter were to be explicated on the transcendental basis of its relation to our cognitive capacity, matter would only be "any object of outer sense." In contrast to the spatial form of an object of outer sense, matter is the object of sensation. However, no object of sensation can be given *a priori*; it is the properly empirical element of sensible, outer intuition (*MAdN* 4:481.2–12). Consequently, the concept of something that moves in space inherently refers to a plurality of spatial

[68] It may appear that Kant's Third and Fourth Propositions of Mechanics tell against my account. The Third Proposition is that "all changes of matter have an external cause." As quoted just above, its proof rests on the transcendental causal thesis, that every event has a cause, and seeks only to show that every physical event has an external cause ("hier soll von der Materie nur bewiesen werden, daß ihre Veränderung jederzeit eine *äußere Ursache* haben müsse"; *MAdN* 4:543.24–5). Kant's proof of the Fourth Proposition (the equality of action and reaction) rests on the thesis, allegedly defended in the first *Critique*, that every external action in the world is an interaction ("alle äußere Wirkung in der Welt *Wechselwirkung* sei"; *MAdN* 4:544.36). The difference between these two Propositions is that the Fourth seeks to demonstrate something *about* all external causal action; the Third seeks to demonstrate that every physical event *has* an external cause. Kant's proof of the Fourth Proposition cannot be taken to indicate that he thought that he had already settled in the Third Analogy the question about physical events having external causes that I argue here must be a metaphysical, not merely a transcendental, issue.

[69] *KdU* Einl. 5:181.15–20; quoted above, p. 145.

sensations. Hence this quite abstract concept of matter ("something moveable in space") is empirical. Though more explicit, this is essentially the same explanation of this point Kant gives in the Transcendental Aesthetic.[70]

On the basis of the principles defended in the Analogies of Experience, distinguishing changes of state from coexisting states of affairs requires distinguishing nonspatial changes of state from changes of place (above, §§2.5, 36.3). However, changes of place can only be identified if one can identify bodies that change place, and one can only identify bodies that change place if one has a concept of bodies that can change place. This concept is (or at least includes) the concept of "the moveable in space," and this concept is an empirical concept, for the reasons just rehearsed. The principles of the Analogies of Experience cannot regulate our causal judgments about the objects we experience, indeed not even schematic criteria for their use can be given, apart from this empirical concept. In this way, Kant's Analogies incorporate a metaphysical content, via an empirical concept, into what were, in the *Critique of Pure Reason*, officially supposed to be pure *a priori* transcendental principles for regulating our cognitive judgments involving the categories. More importantly, this metaphysical content of the concept of matter is essential to Kant's thesis that matter as the moveable in space contains only external relations. In turn, this thesis is essential to his justification of transeunt causality among spatiotemporal objects as a condition for the possibility of experience of their concurrent existence. Therefore Kant's *a priori* transcendental analysis alone cannot justify the metaphysical causal thesis, and it cannot justify the application of the transcendental causal thesis to moveable objects in space (whether singly or in groups). Kant was right to say (in the *Foundations* and in the introduction to the third *Critique*) that the proof that changes in matter have external causes belongs to metaphysics, not to transcendental philosophy (alone).[71]

However, Kant was mistaken that the general metaphysics of the first *Critique* establishes that every change has a cause (the transcendental causal thesis), even if we restrict this to changes in objects of possible experience.

[70] A41/B58, 3:64.19–30, cf. *MAdN* 4:482.7–13. In some of these passages Kant puts the point in terms of learning this concept on the basis of experience. As Cramer (1985, 79, 115–18, 197–220) points out, these remarks cannot be taken at face value on pain of resting Kant's supposedly *a priori* transcendental and metaphysical analyses on empirical *evidence* gleaned from experienced objects.

[71] *MAdN* 4:543.22–5 (quoted above, p. 158), *KdU* 5:181.23–31 (quoted above, p. 145); *contra* Kant's claim in the first *Critique* that the principle of sufficient reason, which I have called the "transcendental causal principle," is itself the ground of possible experience (especially A201/B246, 3:174.24–6).

This is because the three Analogies form so tightly an integrated set of principles (§§2.5, 36.3). We are unable to use even the schematized category of cause as rule-governed succession unless we are able to distinguish changes of place from other, nonspatial changes of state; the Second Analogy requires the Third. Additionally, we are unable to identify substances that change place and distinguish them from substances that undergo nonspatial changes of state unless we are able to identify persisting substances, and we cannot identify persisting substances unless we can identify their coexisting properties and aspects and distinguish them from other coexisting objects or concurrent events; the First Analogy also requires the Third. Since the Third Analogy requires an empirical concept of matter as the moveable in space, so do the First and Second Analogies. If the Analogies are integrated in these ways, and if as a set they thus require transeunt causality, then defending transeunt causality is central to Kant's aim to defend the "necessity" of rule-governed causal sequences, as emphasized in the Second Analogy and in Kant's "answer" to Hume's skepticism about causal necessity. Consequently, the *Foundations*, which explicates metaphysically the empirical concept of matter as the moveable in space, has a crucial, ineliminable role to play in Kant's Analogies. However, by introducing an empirical concept into the content of the principles Kant defends in the Analogies (and the *Foundations*), the role played by the *Foundations* brings in tow some crucial changes in Kant's architectonic (see §39).

This conclusion, that the principles Kant defends in the Analogies ultimately incorporate some empirical content into the formulation of the metaphysical causal thesis, and hence into the defense of transeunt causality, entails that the principles Kant defends in the Analogies cannot be justified only on pure *a priori* transcendental grounds; their justification requires "special" metaphysics, too. This point is reinforced by considering more closely the views Kant opposes.

38 A SECOND METAPHYSICAL PRESUPPOSITION OF THE ANALOGIES OF EXPERIENCE

To justify the metaphysical thesis that every physical event has an external cause, in the strictly transcendental and apodictic way Kant's transcendental idealism proposes (see §58), requires eliminating the alternative accounts of changes in physical substances offered by physical monism (*e.g.*, Spinoza's) and by hylozoism. But Kant does not achieve this in the first *Critique*. Even if his justification for it is sound, the most that his transcendental causal thesis entails is that each event has a cause that is

distinct from it and precedes it in the temporal order, where this order may not involve a lapse of time (in any of the ubiquitous cases of simultaneous causes and effects; A202–3/B247–8, 3:175–6). Nothing follows from that thesis about whether the cause of a physical event lies in a distinct substance, and nothing follows from that thesis about whether the cause of a physical event is another physical event, or is instead either a psychological or quasipsychic, purely internal state of the substance in question, or perhaps even a transcendent or supersensible being (the god of the occasionalists or the souls of Leibnizian monads). In brief, on materialistic monism, there is no plurality of substances; hence no changes are caused by anything external to the one substance (§§38.1–38.4). According to hylozoism, matter is not dead, so not all changes are caused by external causes (§38.5).

38.1 *Physical monism and the metaphysical causal thesis*

On a (roughly) Spinozistic physical monism, there is only one physical object, though it is quite complex and comprises a huge number of distinct parts, aspects, or "modes." These aspects or modes of substance are causally related. Causal relations hold between modes in such a way that one might contend that those relations are "external" to the *modes* of substance, although they are *internal* to the one substance itself. In this way one could account for (or at least accommodate) any of our judgments about physical phenomena Kant sought to account for, while nevertheless denying that causal relations hold between distinct substances. While such Spinozism was widely abhorred in Kant's day, nothing that Kant argues in the first *Critique* rules it out.[72]

Transeunt causal interaction is necessarily causal interaction among a plurality of substances. Kant remains entirely neutral about the number of substances in the first two Analogies, but in the Third he asserts their plurality (§38.2). The plurality of substances is a mere assumption of Kant's analysis, and is not entailed by the principles of the Analogies (§38.3). Kant's grounds for this assumption are easy to surmise (§38.4). However, those grounds provide no basis for maintaining the externality of their causal relations (§§38.4, 38.5).

[72] Indeed, there are some traces already in the first *Critique* of the doctrines concerning the physically monistic aether Kant developed in the *opus postumum*. See Edwards (1991) and also Ameriks (1992a, 268–9), who points out the recurrent hazard of Kant's analysis of causality lapsing into Spinozism.

38.2 *The Analogies of Experience and the number of substance(s)*

First consider passages in which Kant designates substance, object, or thing in the singular. At one point Kant speaks in the singular of "something *abiding* and *permanent*,"[73] at other points Kant speaks in the singular of "substance" or "object." While there are passages where Kant discusses "a substance" or "a thing" as if it were or could be just one among many,[74] these passages speak of substance or object *per se*:

> In all change of appearances substance persists, and its quantity in nature is neither increased nor decreased.
>
> (B244, 3:162.4–6, cf. A184/B227, 3:163.37–164.1; 1st Analogy)

> Since, now, every effect consists in that which happens, and therefore in the alterable, which signifies time in its character of succession, its ultimate subject, as the substratum of everything that changes, is the *permanent*, that is, substance. (A205/B250, 3:177.5–8, cf. A205–6/B251, 3:177.18–22, A206/B251, 3:177.23–9, 2nd Analogy)

> I am conscious only that my imagination sets the one state before and the other after, not that the one state precedes the other in the object.
>
> (B233–4, 3:167.24–6, cf. 3:167.23, A196/B241–2, 3:172.10–16; 2nd Analogy)

At other points Kant speaks, of course, in the plural of "things," "objects," or even of the substantiality of "appearances." For example, he says:

> If we assume that something absolutely begins to be, we must have a point of time in which it was not. But to what are we to attach this point, if not to that which already exists? For a preceding empty time is not an object of perception. But if we connect the coming to be with things (*Dinge*) which previously existed, and which persist in existence up to the moment of this coming to be, this latter must be simply a determination of the former, as the permanent.
>
> (A188/B231, 3:166.7–13, 1st Analogy)

Several other passages also clearly indicate this plurality.[75] However, as mentioned above, at one point Kant deliberately equivocates about the number of substance(s):

[73] ". . . etwas *Bleibendes* und *Beharrliches*, von welchem aller Wechsel und Zugleichsein nichts, als so viel Arten (modi der Zeit) sind, wie das Beharrliche existiert" (B225–6, 3:163.5–7, 1st Analogy).

[74] "If one substance goes from one state A to another B, the moment of time of the second is distinct from the moment of the first and follows it" (B253, 3:178.15–17, 2nd Analogy); "The question is thus: how a thing goes from one state = A to another one = B" (B253, 3:178.23–5, 2nd Analogy).

[75] Cf. A186/B229, 3:165.7–9, A189/B232, 3:166.23–8 (1st Analogy), B234, 3:168.3–7, A206/B251–2, 3:177.23–178.2 (2nd Analogy).

> In all appearances the permanent is thus the object itself, that is, substance (phenomenon), but everything which changes or can change only belongs to the way in which this substance or substances exist, and thus to their determinations. (A183–4/B227, 3:163.29–32, 1st Analogy)

Here Kant deliberately leaves open the question of the number of substance(s), and as several passages quoted above show, this question remains open in the Second Analogy, too.

However, the principle and the proof of the Third Analogy confidently speak of a plurality of substances. Recall Kant's formulation and illustration of the Third Analogy:

> All substances, so far as they coexist, stand in thoroughgoing community, that is, in mutual interaction. (A211, 4:141.10–11)

> All substances, in so far as they can be perceived to coexist in space, are in thoroughgoing reciprocity. (B256, 3:180.25–7, cf. A211/B256–7, 3:180.29–181.7)

One main point of Kant's proof, of course, is to establish necessary conditions of our judgments about the simultaneity of the existence of objects. However, Kant assumes, rather than demonstrates, a plurality of substances. This can be seen by noting that the principles of the Analogies do not entail a plurality of substances.

38.3 *The principles of the analogies do not entail a plurality of substances*

Kant's example from the Second Analogy of a house, whose sides, roof, and foundation can only be perceived successively, though they exist concurrently,[76] illustrates the principle of the Third Analogy just as well as does interaction between two distinct substances. Though appropriate, this highlights how Kant assumes a plurality of substances. Even if houses typically are constructed of pieces, so that a house comprises a plurality of substances, not all houses are constructed of distinct parts (some houses consist of a single piece of urethane foam; there are also cast concrete houses and mud houses), and all Kant needs for his point in the Second Analogy is a large object; a cave or a (possibly homogenous) boulder would do. Indeed, large size only makes Kant's point more obvious; any three-dimensional object one examines can exhibit our successive apprehension of concurrently existing aspects of the object because every three-dimensional object has an occluded "back" side, which comes into view as one variously

[76] A190/B235, A192–3/B237–8; 3:168.29–32, 169.37–170.7.

moves around or rotates the object. In sum, a single substance fulfills Kant's principle of simultaneity as well as does a plurality of substances simply because the parts or aspects of a single substance coexist and are causally related no less than are distinct, simultaneously existing, causally interacting substances. Indeed, Kant's own proof of the Third Analogy bears witness to this when he speaks of "the existence of the manifold in the same time";[77] that concurrent manifold could be the manifold of a single substance or of a plurality of substances. Why does Kant assume a plurality of substances?

38.4 *The putative grounds of Kant's assumption of a plurality of substances*

Throughout his writings on dynamics, Kant simply assumes a plurality of substances (Edwards 2000, 74f.). Paton (1936, 2:190 note 1, 211) noted that "Kant ought to have explained how there must be many substances," and he gives the likely ground of Kant's assumption of plurality: "[Kant's] reason is that substances fill space, and that every part of a substance is a substance." However, these grounds are elaborated in the *Foundations*, not in the first *Critique*.[78] This is an important regard in which the first *Critique* requires the *Foundations*.

In the first *Critique* Kant does not justify his assumption of a plurality of substances. If he does not justify this assumption, then he cannot justify the related assumption of the mutual distinctness of those substances, and if he cannot justify the mutual distinctness of substances, then he also cannot justify the thesis that changes are brought about in material substances only by *external* causes. (This thesis is not too strong; Kant is a committed dualist according to whom the bodily actions of living organisms, including free agents, have nonphysical causes.[79]) For all Kant argues in the first *Critique*, Spinoza could be right that there is only one physical substance. If physical monism is true, then there is no transeunt causality between distinct *substances*. For his examples and arguments in the Analogies to prove that physical causality is transeunt, he needs to show that there is a plurality of substances. However, as Paton noted, he does not justify this thesis within the first *Critique*, nor within its purely transcendental framework. For all that he shows in the first *Critique*, Kant's examples and

[77] A211/B257, 3:181.7.
[78] Paton (1936), 211; but see note 82 below.
[79] A538/B566, 3:366.9–16; A358–9, 4:225.30–226.16; *MAdN* 4:544.17–19; *KdU* 5:484.7–19; cf. §35.3 above.

arguments in the Analogies could be rewritten in terms of physical monism and at the expense of his response to Hume's denial of transeunt causality.

38.5 *Hylozoism and the insufficiency of the transcendental causal thesis*

As noted, Kant regarded hylozoism as the death of all natural philosophy.[80] According to hylozoism, physical events are brought about by some kind of moving principle wholly internal to a physical substance. What looks like interaction may be explained away as coincidental, if not preestablished, synchrony of the internally caused changes in animate matter. This is why the lifelessness of matter is so important to Newtonian physics, and to Kant's transcendental-*cum*-metaphysical reconstruction of that physics. However, as van Cleve pointed out, Kant's pure *a priori* argument in the first *Critique* against hylozoism, and in defense of the thesis that matter as such is lifeless, is inadequate. In the *Foundations*, Kant recognized that this issue is metaphysical, not transcendental, and can be resolved (if at all) only through the metaphysical explication of an *empirical* concept of matter. Thus the *Foundations* is crucial to Kant's transcendental justification of the metaphysical causal thesis, that is, to his defense of transeunt causal interaction between material substances. The transcendental causal thesis ("every event has a cause") by itself is insufficient for organizing our experience of physical objects because that thesis is insufficient for distinguishing changes of place from nonspatial changes of state because it is insufficient for linking ordinary physical objects together in transeunt causal relations. Without the specifically metaphysical thesis that physical events have external causes, we have no justification for connecting, in causal judgments, our perceptions of distinct physical objects in the ways Kant assumes in his examples of water that changes state from liquid to solid, a stove that heats a room, a lead ball that indents a plump cushion, water that rises above the surrounding water level into a capillary tube, or iron filings that are attracted by a magnet.[81] Our experience of physical objects can only be rendered determinate through the much more specific metaphysical thesis that all physical events have (directly or indirectly) external causes. The justification of transeunt causality cannot be merely transcendental; it must be in part metaphysical. The Analogies of Experience require the *Foundations* because Kant's arguments and illustrations in the Analogies make two crucial metaphysical presuppositions which only are, and can only be, analyzed in the

[80] *MAdN* 4:544.25–6, cf. §35.5 above.
[81] B162–3, A202/B247f., A203/B248, A203–4/B249, A225–6/B273–4, respectively.

Foundations. These presuppositions are the plurality of spatiotemporal substances and the externality of their transeunt causal relations. Both of these presuppositions are based on the metaphysical explication of the empirical concept of "matter as the moveable in space."

39 SYSTEMATIC RAMIFICATIONS

This conclusion brings out two very important ways in which the *Foundations* directly supplements or modifies the first *Critique*. First, Kant's transcendental analysis of the condition of the possibility of experience in the first *Critique* is not complete, but requires a metaphysical supplement. This requires adjusting his architectonic (§39.1). Second, Kant's transcendental philosophy thus presupposes, rather than defines, one important kind of metaphysics and its possibility (§39.2).

39.1 *The metaphysical basis of Kant's transcendental analysis of causal judgments*

Kant's analysis of causality as a condition for the possibility of our experience of objects cannot be completed within the transcendental framework of the first *Critique*. Also required is the metaphysical thesis, first formulated in the *Foundations*, that physical events have external causes. Additionally, Kant's transcendental justification of causal judgments requires two substantive points about matter from the *Foundations*. It requires the doctrine, cited by Paton, that physical substance is spatially extended, and so is inherently divisible. On the basis of this doctrine, Kant could claim that physical occupants of distinct regions of space that appear to move independently are distinct physical substances.[82] It also requires the doctrine, discussed above (§§35.3–35.5), that matter is lifeless. Only on this basis can Kant justify the principle that the causes of physical changes

[82] I stress that Kant *could* claim this, on the basis of perceived independent motion. The divisibility of space, and the divisibility of matter within that space, by themselves do not entail the distinctness of material substances in cases of such a substance as the aether, which is implicit in the Third Analogy (as a medium of dynamic interaction; A212/B258–9, 3:181.37–182.10; see Edwards (1991, 84–8; 2000, 147–66) and which plays a prominent role in the *opus postumum*. However, different spatial regions of the aether do not move independently in space with regard to one another, and they are certainly not perceived to move in such a manner. In the first *Critique*, Kant does claim that perceiving them in distinct places at the same time is a sufficient ground for distinguishing numerically among objects as appearances (A263–4/B319–20, A272/B328; 3:216.29–217.4, 221.30–222.2; cf. A513/B541, A525–7/B553–5; 3:351.19–30, 358.33–360.12). However, I would insist that here, too, he has not really grasped the full problem, which is only brought out in the *Foundations*. These passages *involve*, rather than solve, the problems I point out here.

are external to material objects. Without these two points of doctrine, there can be no general criteria for using the transcendental causal thesis to judge (and thereby identify and know) the physical objects and events we experience. That is to say, without these two points of doctrine, the pure category of causality cannot be specified as the metaphysical concept of causality, and cannot be used to make possible our experience of physical objects.

This conclusion cannot be avoided by responding that Kant only sought necessary conditions for the possibility of unified self-conscious experience, but not sufficient conditions, where the transcendental causal thesis would be a necessary condition, while the metaphysical causal thesis would be a sufficient, but extratranscendental, condition. Kant sought the necessary conditions that sufficed for the possibility of unified self-conscious experience. Kant states that transcendental philosophy

> must at once (*zugleich*) present, in universal though sufficient characteristics, the conditions under which objects can be given in correspondence with those concepts; otherwise [those concepts] would lack all content, and thus be mere logical forms and not pure concepts of the understanding. (A136/B175, 3:133.14–18)[83]

Tuschling (1971, 39) is right that the principles of the first *Critique* must pass the test of applicability, but the test of the schematized concept of transeunt causality is posed not only by physical science but also by common objects and events in everyday life. At a general level, Förster is right that the importance of the *Foundations* to the first *Critique* lies in its applying transcendental concepts to outer intuitions, thereby supplying content for otherwise mere empty forms of thought (above, §34), though he overlooks the crucial point that applying these concepts to outer intuitions requires a specific, metaphysical concept of *the objects* of those intuitions as pieces of spatially extended "dead" matter.[84] Kant's transcendental justification of the legitimate use of the category of causality cannot be completed without these metaphysical doctrines found only in the *Foundations*.

Admitting this additional bit of metaphysics into Kant's System of Principles requires a significant adjustment of Kant's architectonic. In

[83] Cf.: "[die] Bedingungen, deren der Verstand zur synthetischen Einheit des Denkens bedarf " (A90/B123, 3:103.7–8).

[84] Like many other commentators, Guyer recognizes that "[w]ithout the analogies, there can be no justification for the interpretation of our *empirical intuitions* as representing *objects and events in time* at all" (*Claims*, 209, 210, 242–3, cf. 246). However, Guyer only adduces "objects" in contrast to our representations; like other commentators, he does not see that Kant must address the further question of whether these outer objects consist of dead matter.

the first *Critique*, Kant officially held that only pure *a priori* considerations could enter into the transcendental deduction of pure *a priori* concepts:

> To aim to attempt an empirical deduction of [the concepts of space, time, and the categories], would be a completely futile effort, simply because their distinctive nature is that they relate to objects without borrowing anything for representing [these objects] from experience. Because their deduction is thus required, it must be altogether transcendental. (A85/B118, 3:100.15–20)[85]

I have shown, however, that the pure concept of causality does not relate to objects solely on pure *a priori* grounds; it can only be related to objects on the basis of an empirical concept of the kinds of objects we experience, namely, lifeless, spatially extended, mutually distinct material substances. Kant failed in his aim to complete an "altogether" (*jederzeit*) *a priori* deduction of causality.

In the above passage Kant uses a simple dichotomy between what is transcendental and nonempirical *versus* what is empirical. The "special metaphysics" of the *Foundations* introduces an intermediate class of concepts, judgments, and explications which Kant had difficulty integrating into his architectonic. The problem can be seen quite clearly in connection with the following claim Kant makes about transcendental analysis:

> Uniquely characteristic of transcendental philosophy is that in addition to the rule (or rather the universal condition for rules) which is given in the pure concept of the understanding, it can also indicate *a priori* the instance to which the rule ought to be applied. The cause of this advantage [is] that it deals with concepts which ought to relate to their objects *a priori*, thus their objective validity cannot be shown *a posteriori*, for that would leave altogether untouched the former dignity; instead transcendental philosophy must at once (*zugleich*) present, in universal though sufficient characteristics, the conditions under which objects can be given in correspondence with those concepts; otherwise [those concepts] would lack all content, and thus be mere logical forms and not pure concepts of the understanding. (A135–6/B174–5, 3:133.5–18)

The problem with Kant's deduction and schematism of the concept of causality lies in the *a priori* display of the instances to which the concept of causality is to be applied. Transeunt causality can only be displayed in instances of objects that interact with other objects by virtue of their causal

[85] Cf.: "Hence I call the explanation of the way in which concepts can relate to objects *a priori* their *transcendental deduction*, and [I] distinguish this from the *empirical* deduction, which shows the way in which a concept can be obtained through experience and reflection on that experience, and which therefore does not concern the legitimacy, but [only] the fact, of how this possession originated" (A85/B117, 3:100.5–10).

dispositions. While the relevant externality of these relations can be *illustrated* in the pure form of outer intuition (in quasigeometrical diagrams), neither that display nor any other transcendental or otherwise "pure" *a priori* consideration Kant adduces either shows or can show that objects illustrated in this *a priori* manner can have *only* "external" transeunt causal dispositions. Only this strong claim would justify purely *a priori* our use of the transcendental causal thesis to judge and thereby to identify interactions among physical objects. Kant remarks in a Reflection on the Third Analogy that the externality of spatial relations makes causal interactions possible.[86] While correct, this does not suffice to show that interactive, transeunt causality is the *only* possible (and hence *actual*) characteristic of spatial objects we experience to coexist.

In this regard, Kant's analysis of the metaphysical concept of causality in the *Foundations* shows that the most difficult problem of transcendental philosophy remains unanswered within the bounds of the *Critique of Pure Reason*. At the beginning of the Analytic of Principles Kant spends several pages etching the severe problem facing the deduction of pure concepts of the understanding, namely, that they are neither learned on the basis of experience, nor can they be exhibited in experience. Hence if they are necessary for unitary self-conscious experience, how are they possible? How can they be used? This is the problem of the transcendental power of judgment.[87] Careful analysis of Kant's theses about causality shows that he cannot solve this transcendental problem without the aid of the expressly metaphysical *Foundations*.

There is another, related adjustment in Kant's architectonic. In the first *Critique*, Kant confidently claimed that his future "system of pure reason" would only concern the clarification, but not the extension, of concepts (A204/B249, 3:176.20–9). In this regard, he was far too optimistic. The *Foundations* contains extensions of the concept of matter and of causality that are absolutely crucial to the Analogies of Experience and to the Transcendental Deduction. Those extensions are indicated by the points of doctrine just discussed, the moveability of matter in space, the lifelessness of matter, the empirical criteria for distinguishing physical objects, and the metaphysical causal thesis. Consequently, without the *Foundations*, Kant's Analogies are radically unsupported, nor is Kant's Deduction of the Categories complete within the first *Critique*. Consequently, the *Foundations* is crucial to the Critical philosophy as a whole.

[86] Refl. no. LXXXVI (22:31.26–32.4), re: A211, 4:141.
[87] B171–4, B176–7; 3:131.13–133.4, 134.7–21.

39.2 *Transcendental philosophy presupposes, rather than defines, metaphysics*

To recognize the deep systematic implications these results have for Kant's view of the relation between transcendental philosophy and metaphysics, it suffices to recall two passages, one from the "Architectonic of Pure Reason" and one from the *Prolegomena*. In the "Architectonic," Kant states that, in contrast to the general sense of "metaphysics" as systematic knowledge,

> Metaphysics, in the narrower sense, consists of *transcendental philosophy* and *physiology* of pure reason. The former considers only the *understanding* and reason, in a system of all concepts and principles which relate to objects in general, but without assuming objects that *may be given* (*Ontologia*); the latter considers *nature*, that is, the sum of *given* objects (whether given to the senses, or, if one will, to some other kind of intuition) and is therefore *physiology* (although only *rationalis*).
> (A845/B873, 3:546.16–24)

"Transcendental philosophy" denotes the first *Critique*, as a parallel passage a few pages earlier makes abundantly clear.[88] According to this typical passage, transcendental philosophy is supposed to be independent of any kind of given object. Indeed, transcendental philosophy is the critical propaedeutic for metaphysics (in the strict Kantian sense), which does take a given range of objects, such as nature, into account. Kant states this most directly in the *Prolegomena*:

> One may say that the entire transcendental philosophy, which necessarily precedes all metaphysics, is nothing other than the complete solution of the question here propounded [*sc.* How are synthetic cognitions possible *a priori*?], in systematic order and completeness . . . [Transcendental philosophy] first establishes the possibility of [metaphysics], and therefore must precede all metaphysics.
> (*Prol.* §5 4:279.3–9)

We have seen in the central case of the causal relations among objects of possible outer experience that this neat order of philosophical priority, which Kant radically revised in his *opus postumum*, is already problematic in 1786.[89] The transcendental causal thesis does not suffice for the possibility

[88] "Now the philosophy of pure reason is either *propaedeutic* (preparation), which investigates the power of reason in regard of all pure *a priori* knowledge, and is called *critique*, or secondly, it is the system of pure reason (science), [that is,] the whole (true as well as illusory) of philosophical knowledge from pure reason in systematic connection, and is called *metaphysics*" (A841/B869, 3:543.27–544.2).

[89] In some parts of the *opus postumum* Kant states that metaphysics is the basis for transcendental philosophy, which in turn is the basis for natural science. This throws open the entire issue of what, exactly, is transcendental philosophy and what distinguishes it from metaphysics (*e.g.*, 22:411.20–3, 418.27–421.3, 105.23–5; 21:79.20–4, 80.20–5). The last three of these passages are included in Kant (1993, 199, 246, 247). These issues are pursued further below, §§52, 58, 59.

of unified self-conscious experience of objects; it must be supplemented by "metaphysical" concepts concerning matter as the moveable in space, the empirical criteria for individuating physical objects, and the metaphysical thesis that physical events have external physical causes. Kant is quite right to state, in the *Foundations* and the introduction to the third *Critique*, that these crucial concepts belong to metaphysics.[90] "Metaphysics" is thus not defined solely through transcendental critique. Instead, transcendental critique presupposes at least one special kind of metaphysics. This directly inverts Kant's official architectonic, as expressed in the passages just quoted.[91] Moreover, the justification of Kant's transcendental principles thus becomes dependent upon the justification of his metaphysical principles, where those principles cannot be justified solely on pure transcendental grounds. Transcendental philosophy cannot be complete unto itself in the way Kant supposed.[92] The bearing of these systematic shifts on Kant's transcendental idealism are considered below (§58). First, chapters 5 and 6 consider how and whether the *Foundations* bear the Critical weight Kant puts on them.

40 A POSSIBLE SOURCE OF KANT'S DIFFICULTY

In view of these findings, perhaps a diagnosis is possible of Kant's conflation of the transcendental and the metaphysical causal theses in the first *Critique*. Two tendencies seem to have troubled Kant. One tendency is to shift at will between changes of perceptions considered as states of the perceiving subject and changes of state of objects or other events, considered as empirically real entities. The other tendency is to conflate the transcendental causal thesis (every event has a cause) with the metaphysical causal thesis (every material change has an external cause) under the broad label of "the" principle of sufficient reason.[93] Once Kant plainly focuses on

[90] Cf. *MAdN* 4:470.1–12 (quoted above, p. 138); *KdU* 5:181.23–31 (quoted above, p. 145).

[91] It also requires revising Kant's account of the relations between transcendental philosophy, metaphysics, and physics as sketched in the *Prolegomena* (*e.g.*, §15 4:294–5). The *Prolegomena* was published in 1783, two years after the A edition, but three years before the *Foundations*. One important revision is this. In the *Prolegomena* Kant claims the "universal" applicability of the principles of the Analogies, meaning their applicability to all the objects of the senses, both inner and outer (§15 4:295.7–22). In the *Foundations* Kant realized that he had to rescind the applicability of the Analogies to the objects of inner sense (psychology), which in fact accords with his arguments in the first edition Paralogisms (see below, §61).

[92] This is to provide further grounds for the official collapse of the distinction between transcendental philosophy and metaphysics later in Kant's thought. See Förster (1989a, 298; 2000, 72–4, 113–16).

[93] A200–1/B245–6, 3:174.10–1, 174.22–4.

outer, physical objects in the *Foundations*, these two theses are clearly distinct, though this has not been obvious to Kant's commentators. Once these theses are properly distinguished, as Kant did in the *Foundations* and in the published introduction to the third *Critique*, it becomes plain that neither the Deduction nor the Analogies can stand without the *Foundations*. The requisite metaphysical thesis, that all changes of matter are externally caused, is not, as such, defended in the first *Critique*. Indeed, given two important facts, it should not be: transcendental principles are supposed to be formulated only in terms of pure *a priori* concepts, and they are supposed to be justified solely on *a priori* grounds, while the thesis that all changes of matter are external requires an *empirical* concept of matter. In this regard, the *Foundations* plays an absolutely fundamental role for Kant's System of Principles in the first *Critique*, because only in the *Foundations* does Kant defend the metaphysical causal thesis on which the Analogies in fact rely. Thus, if there are severe problems with the *Foundations*, they would indeed open a crippling gap in the entire Critical system, a gap leaving Kant holding what he called "the unpaid bill of my uncompleted philosophy."[94] In the next two chapters, I argue that indeed there are fundamental problems with Kant's *Foundations*, severe enough to raise exactly the grave worries Kant recognized. In brief, not even Kant's special metaphysics can close the gap identified by Van Cleve in Kant's argument against hylozoism (above, §35.4); this leaves Kant with no proof of the intended kind of the objective validity of causal judgments and no foundations for Newtonian mechanics.[95] Because Kant's metaphysical methods in the *Foundations* are based squarely on Kant's transcendental idealism, the failure of the *Foundations* also marks a second failure of Kant's transcendental idealism: it cannot provide the apodictic proof of the legitimacy of causal judgments Kant claimed for it.

[94] To Garve, Sept. 21, 1798; 12:257; (1967, 251); cited by Förster (1987, 533).

[95] The problem or "gap" identified here is much more severe than the one identified by Förster (1987, 553–5; 2000, 72–4). I agree that Kant's project faces the difficulties Förster highlights. Förster does not recognize that the "unconstructability" of matter deprives Kant of the *sine qua non* for his transcendental idealist justification of causal judgments, namely a proof that every physical event has an external cause.

CHAPTER 5

Kant's dynamic misconstructions

41 INTRODUCTION

Above (§30) I indicated three steps required to show that Kant's transcendental idealism fails in its own terms to justify causal judgments. In chapter 4 I argued that Kant's justification of causal judgments in the first *Critique* fails because it needs but does not justify the much more specific metaphysical principle, that every physical event has an external physical cause. Kant takes two main steps in the *Foundations* (*MAdN*) to fill this gap. First, he argues that matter can only be understood in terms of its two original constitutive forces. This requires justifying the ascription to matter of dynamic causal powers (chapter 5). Second, he argues on metaphysical grounds for the law of inertia. This law requires that causes of physical change must be external (chapter 6). Kant's metaphysical method in the *Foundations* is based squarely on his transcendental idealism. Consequently, the failures of his analyses of these two key points in the *Foundations* serve directly to undermine Kant's idealism because his idealism ultimately cannot provide the complete analysis and justification of causal judgments Kant claims it alone can provide.

Filling the gap in Kant's justification of causal judgments arising from the distinction between the transcendental and the metaphysical causal principles is an unofficial aim of Kant's *Foundations*. To understand how the *Foundations* is to fulfill this unofficial aim, as well as the implications of my criticisms of Kant's metaphysical analyses, requires considering Kant's official aims and methods in the *Foundations*. These are highly original, and not pellucid. The points of immediate concern are these.

According to Kant, natural science can be properly *scientific* only to the extent to which it applies mathematics to its objects (*M* 470.13–15).[1]

[1] Here and in chapter 6 I cite the *Foundations* (*MAdN*) frequently, designated as "*M*" and omitting reference to Ak 4.

However, the possibility of applying mathematics to objects in natural science presupposes principles for constructing the concepts that belong to the possibility of matter in general (*M* 472.1–4). Hence a complete analysis of the concept of matter in general is the basis of natural science, and this analysis is provided by pure philosophy (*M* 472.4–7). The official aim of Kant's *Foundations* is to provide metaphysical constructions, together with the principles of these constructions, as a distinct discipline which explains and justifies the possibility of mathematical physics (*M* 473.5–10).

Kant's more specific aim in the *Foundations* is to develop a dynamic theory of matter to replace corpuscularism. This requires Kant to develop the main concepts required by a dynamic theory of matter, and to show that the resulting theory provides an adequate, if not superior, basis for Newtonian physics and for scientific research generally. To propound such a theory as a Critical philosopher, Kant must link his theory of matter with the main tenets of the first *Critique*, and he must develop his theory of matter within the constraints and on the basis of the metaphysical method used in the *Foundations*.[2] Unlike other sciences, Kant expects completeness in metaphysics because it is based on the fundamental laws of thought, where the Table of Categories provides the schema for determining that completeness.[3] In his preface, Kant optimistically claims to have completely exhausted the metaphysical doctrine of body, though he modestly admits that this is not a great achievement (*M* 473.31–4).

Given these completeness claims, it is surprising that Kant admits, in the General Remark to "Dynamics" (*M* ch. 2), that once matter is reconceived, not as corpuscles, but as basic forces, it is not possible to construct the concept of matter (*M* 525.7–12); instead Kant offers mere "suggestions" to guide the development of the requisite constructions (*M* 525.20–4). This tension, if not contradiction, has generated significant discussion.[4] I argue that Kant's admission in the General Remark is only the tip of the problem. Understanding these deeper problems, which Kant recognized after publishing the *Foundations*, ultimately leads to understanding some of the radical revisions of Kant's epistemology in the *opus postumum*, revisions so radical that they constitute a distinctly post-Critical phase of Kant's

[2] I do not discuss further the official links between Kant's doctrines in the *Foundations* and the first *Critique*. See Schäfer (1966, chs. 1–4), Dahlstrom (1991), and Falkenburg (2000), especially 263–305. My analysis differs markedly from Friedman (1992a); I explain my disagreements in Westphal (1995a, 409–14). Also see Edwards (2000, ch. 6–8).

[3] *M* 473.15–22, 473.35–476.4.

[4] I critically review the relevant literature in Westphal (1995, §II).

theoretical philosophy.[5] Kant scholars have been deeply suspicious of Kant's later claims about the Critical philosophy. I argue that some of the most surprising and critical of those claims are correct, and that they require fundamental revisions in Kant's Critical philosophy (§§52, 58, 59).

Serious questions regarding the soundness of Kant's *Foundations* arise from Kant's admission that the concept of matter cannot be "constructed" in the way he proposes (§42). Identifying the two key problems requires reviewing the *Foundations*' aim and method (§43). One problem lies in Kant's proof that matter consists of two fundamental forces. Understanding this proof requires examining Kant's phoronomic basis for his dynamics theory of matter (§44), including the aims and methods of "phoronomy" (§45). Examining these reveals that Kant's use of the "Proposition of Phoronomy" is fallacious (§46). Kant's recognition of that fallacy confirms the present analysis (§47). Another problem lies in Kant's theory of matter (§48): it is viciously circular (§49). This circularity is underscored by Kant's problems with cohesion (§50). These problems, in turn, reveal a second vicious circularity in Kant's analysis (§51). These flaws have serious implications for Kant's Critical system (§52).

In chapter 6 I argue that all of these problems are compounded by Kant's failure to prove Newton's Law of Inertia, which serves as Kant's proof that every physical event has an external physical cause (§§53–7). This budget of problems demonstrates the untenability of Kant's metaphysical method in the *Foundations*. Because that method is rooted in Kant's transcendental idealism, these problems show that his idealism cannot fulfill some of Kant's most basic claims for it (§58). Consider first Kant's admission that matter cannot be metaphysically "constructed."

42 KANT'S ADMISSION THAT MATTER IS UNCONSTRUCTABLE

Kant's admission of the unconstructability of matter is carefully qualified. Kant admits (*M* 525.7–12) that when matter (*Stoff*) is reconceived as basic forces, it is not possible to construct the concept of matter and to present it in intuition as possible. However, Kant admits this specifically in connection with density and the corpuscular explanation of density in terms of vacant interstices (*M* 524.40–525.7). What Kant disclaims, just before advising us about possible lines of construction of the concept of matter, is a *sufficient* explication of the concept of matter, and in particular, of

[5] I adopt the phrase "postcritical" from Förster (1989a, 285).

density (*M* 525.20–1). Kant insists that for his metaphysical purposes it suffices to present the filling of space as a dynamic property of matter; he claims not to need to specify the laws governing that property, and not to need to explain the further properties of matter such as cohesion, density, fluidity, elasticity, dissolution, decomposition, or specific differences among different materials.[6] Thus his optimistic claims to completeness in the preface must concern his essential aim of analyzing matter's occupation of space in dynamic terms.

However, two crucial problems face Kant's essential aim to present the filling of space as a dynamic property of matter. First, his argument for introducing forces in the first Proposition of Dynamics is fallacious and begs the question. Second, his treatment of density is circular. Thus Kant cannot relegate the problem of density to the periphery of his concerns, nor can he dismiss the problem of cohesion as a secondary, empirical concern. Finally, both problems show that Kant's quasimathematical constructive metaphysical procedure is specious. Since that procedure is rooted in transcendental idealism, these problems redound on it. To understand Kant's problems properly, and to understand their theoretical repercussions, requires reviewing some central features of Kant's aim and method in the *Foundations*.

43 KANT'S AIM AND METHOD IN THE *FOUNDATIONS*

Kant's *Foundations* analyzes metaphysically the concept of matter presupposed by Newtonian physics, in particular, its application of mathematics to the behavior of material bodies. The scope of Kant's project is set by the intersection of two senses of "nature." In the formal sense of the term, "nature" designates the first inner principle of everything that belongs to the existence of something. In the material sense, "nature" designates the totality (*Inbegriff*) of all things as objects of our senses. There are two natural realms, the objects of inner and outer sense (*M* 467.2–16). Kant contends that the objects of inner sense do not admit of scientific treatment.[7] Hence the term that covers both possible kinds of science, *viz.*, "the metaphysical foundations of natural science," can be used to designate its one proper part, namely, the metaphysics of corporeal nature (*M* 471.32–7).

[6] *M* 518.25–31, 522.39–523.4, 525.26ff.

[7] *M* 471.11–32, 542.12–543.14; cf. A381, 238.35–239.13; B291–3, 3:200.6–201.15; B293–4, 3:201.30–5. These latter passages should be considered in connection with the first Paralogism in each edition; see below, §61.

Something can affect our outer senses only through motion, Kant claims; hence motion is the most fundamental characteristic of an object of outer sense (*M* 476.9–12). All other properties belonging to the nature of matter ultimately "derive from" (*zurückführen auf*) motion; accordingly, natural science is pure or applied doctrine of motion (*M* 476.12–477.2). By "derive," Kant expressly intends that motion provides the sole basis on which to ascribe to matter any and all predicates that "belong to its nature" (*M* 476.9–477.2). The Table of Categories provides the only "pure concepts of the understanding that can concern the nature of things (*Dinge*)"; all determinations of the general concept of a matter as such (*überhaupt*) must be covered by the four classes (or titles) of the Table of Categories (*M* 473.35–476.4). By "determinations" (*Bestimmungen*), Kant means all characteristics of matter comprised in its very concept. These determinations concern "everything that can be thought about matter *a priori*, that can be presented in the mathematical construction [of matter], or that can be given in experience as a determinate object (*Gegenstand*)" (*M* 476.1–4). This sentence clearly indicates Kant's aim (reiterated throughout his analysis) to specify the nature of *matter* as such, the very "nature" of matter, or "the inner possibility" of matter, not merely to analyze the concept of matter. Analyzing or constructing the concept of matter is to inform us, so far as this is possible *a priori*, about matter itself. Kant expressly aims to explain the "inner possibility" of matter (*M* 511.14–15), which requires explaining "the inner principle" of everything that belongs to the existence [*sic*] of matter (*M* 467.1–3). Kant's metaphysical aim bears stressing, because Kant expressly purports to justify ascribing two basic *forces* to *matter* as such, not simply to include two basic predicates (of forces) within our concept of matter (*M* 470.19–23). Although Kant (*M* 534.20–6) once suggests that his basic forces have a regulative status, this is not Kant's full view. Kant ascribes a basic, constitutive status to forces in his theory of matter. If Kant's "basic forces" are just regulative ideas, then they must be instrumental and they cannot be explanatory, that is, constitutive of matter or its possibility (Duncan 1986, 287). Kant's view contains three importantly distinct kinds of theoretical postulates: purely regulative "necessary fictions," hypothetical idealizations (including *maxima species*), and basic forces (Okruhlick 1986). Kant intends a realist interpretation only of his basic forces, which is a crucial part of his effort to provide a realist interpretation of Newtonian mechanics.[8]

[8] Here I concur with Brittan (1978, 122) and Okruhlick (1986).

The applied doctrine of motion is empirical; Kant's concern in the *Foundations* is with the pure doctrine of motion, and indeed with only one of its parts. The pure part of physics as a natural science contains both mathematics and metaphysics (*M* 473.6–8). Physics inevitably postulates metaphysical theses about the nature of matter; these are required in order to analyze natural phenomena mathematically (*M* 472.27–32). Kant's concern is twofold. As scientific postulates, these metaphysical theses do not receive proper analysis or justification within natural science (*M* 472.32–5). Moreover, failure to distinguish these theses properly from the fundamental mathematical principles of physics causes confusion and uncertainty about the justification of scientific principles and theory (*M* 472.36–473.5).

Natural science can be properly *scientific* only to the extent to which it applies mathematics to its objects (*M* 470.13–15). However, the possibility of applying mathematics to objects in natural science presupposes principles for the construction of the concepts that belong to the possibility of matter in general (*M* 472.1–4). Hence a complete analysis (*Zergliederung*) of the concept of matter in general is the basis of natural science, and its analysis is the task of pure philosophy (*M* 472.4–7). Kant's *Foundations* provides metaphysical constructions, together with the principles of these constructions, as a distinct discipline that explains and justifies the possibility of mathematical physics (*M* 473.5–10). Kant seeks to construct forces at a general metaphysical level that enables quantification, although quantification requires empirical research (*M* 517.18–35). Kant cannot postpone or defer constructing the basic forces of matter: if those basic forces are not presently constructed, then they have no definite scientific meaning or use, and consequently no concepts of derivative forces or any other concepts based on (*i.e.*, explicated or justified in terms of) those basic forces can have definite scientific meaning or use (Butts 1986b, 188).

The *Foundations* forms a scientific discipline unto itself, and must meet Kant's general standards of scientific knowledge. A science, on Kant's view, is a systematic whole of knowledge organized according to rational principles (*M* 467.18–19). Science is pure rational knowledge; its fundamental laws are apodictically (demonstratively) certain, and hence must be known *a priori* (*M* 468.13–17, 469.12–14).[9] These laws, as rational principles, enable us to derive the multitude of phenomena that belong to the existence of something from its inner principle by reasoning from ground to consequence (*M* 468.19–23).

[9] This demonstrative or probative sense of "apodictic" is modeled on geometrical demonstration (*OED*), long before the discovery of alternative geometrical axioms. For Kant's understanding of the term, see Falkenburg (2000, 301, 363–6).

Doctrine based on empirical principles lacks this certainty, systematicity, and necessity; it is merely historical, and may count as natural history or description of nature, though not, properly speaking, as science (*M* 468.23–9).

To justify applying mathematics to the behavior of bodies within physics, the *Foundations* must be nonempirical (*M* 469.26–33, 475.31–2), and must be independent of the rational principles concerning the use of mathematics in physics (*M* 477.14–17). The *Foundations* must be *a priori*. According to Kant, to know something *a priori* is to know it on the basis of its mere possibility (*M* 470.18–19). However, *a priori* knowledge of *things* cannot be based on mere concepts, for that only determines the possibility of those concepts, but not of their objects (*M* 470.19–23). *A priori* knowledge of the *possibility* of things requires that their corresponding intuition is given *a priori* (*M* 470.23–6). To provide intuitions *a priori* for concepts is to construct those concepts (*M* 470.25–6).

In this regard, Kant's procedure in the *Foundations* is closely allied to that of mathematics, since mathematics (on Kant's view) is rational knowledge through the construction of concepts.[10] Consequently, although the pure philosophy of nature in general, which examines the constitution of the concept of nature in general (*viz.*, the first *Critique*), does not require mathematics, a pure doctrine of nature about *determinate* natural things, such as the doctrine of body given in the *Foundations*, is only possible by mathematical means (*M* 470.27–32). Kant's presentation imitates the mathematical method for constructing concepts as closely as time allowed him.[11] He thinks that the mathematical model is appropriate, and indeed it is required, in view of his aim to provide metaphysical constructions of the concept of matter as the moveable in space, by treating that concept in connection with the forms of intuition and the categories.

Kant's metaphysical constructions in the *Foundations* bring the *a priori* concepts analyzed in the first *Critique*, the Categories, to bear on the intuition of matter in space, where the empirical concept of "matter" is taken in its most austere, minimal sense as "the moveable in space," where the relevant "space" is our pure *a priori* form of outer intuition. The first *Critique* forms the transcendental part of the metaphysics of nature, formulated independently of the nature of either of the kinds of objects of the

[10] *M* 470.26–7, 469.21–5. On Kant's view of mathematical knowledge, see Friedman (1992a, chs. 2, 3), and Posy (1992).

[11] *M* 478.21–7. Kant did not try to imitate the mathematical method of deductive proof. Regarding the differences between Kant's metaphysical constructions and mathematical constructions, see Schäfer (1966, 30–8).

senses (*M* 469.33–70.1). The *Foundations* forms the special part of the metaphysics of nature, which takes the empirical concept of matter and determines the range of *a priori* rational knowledge of this object (*M* 470.1–12). The *Foundations* provides a complete analysis of the concept of matter in general as the basis of natural science; this is the task of pure philosophy (*M* 472.4–6). To this end, philosophical analysis needs no particular experiences, but only what is found in the isolated empirical concept of matter, in connection with the pure intuitions in space and time, in accord with those laws that depend on the concept of nature in general, that is, the principles of the first *Critique* (*M* 472.7–11, 473.6–10). This analysis is an actual metaphysic of corporeal nature (*M* 472.11–12). Its completeness is guaranteed by the Table of Categories of the first *Critique* (*M* 473.15–474.2).

The Table of Categories sets out the general laws of thought (*M* 473.2). Whether it be *a priori*, based on mathematical construction, or learned by experience, whatever may be thought about matter must fall under the four functions of thought, *viz.*, quantity, quality, relation, and modality (*M* 474.2–476.4). To each of the four functions of thought, or headings in the Table of Categories, there corresponds a chapter of the *Foundations*. Each chapter adds a new characteristic (*Bestimmung*) to the basic concept of matter as "the moveable in space" (*M* 476.7–12, 480.6). Chapter 1, titled "Phoronomy," treats motion as a pure quantity capable of composition (roughly, pure kinematics). Chapter 2, "Dynamics," adds a qualitative characteristic to the concept of matter, namely, that it is constituted by original moving forces. Chapter 3, "Mechanics," explicates matter as the moveable insofar as it has moving force (*M* 536.5–7); it treats the relations among moving material bodies. Chapter 4, "Phenomenology," explicates matter as the moveable insofar as it can be an object of experience (*M* 554.5–7). This involves treating relative motions as appearances of outer sense, in connection with our power of representation, and determines their modality (*M* 477.3–13). Ultimately this provides the metaphysical principles required to distinguish true from apparent motions (*M* 561.3–11f.). Each chapter's explication is more substantive than its predecessors; Kant's explication and justification in each chapter presupposes the preceding explications and the soundness of their justifications.

Through these methods, Kant proposes to prove *a priori* three fundamental laws of (broadly Newtonian) mechanics by applying the three Principles defended in Analogies of Experience to the empirical concept of matter as the moveable in space, as that concept is sequentially

explicated in each chapter of the *Foundations*. The three Principles of Kant's Analogies are: substance is permanent through all change, every change has a cause, and causal interaction is reciprocal.[12] Kant's three laws of "Mechanics" (*M* ch. 3) are: the total quantity of matter remains constant through all changes in corporeal nature, every change in matter has an external (material) cause, and action and reaction are equal in all communication of motion.[13] Kant regarded his *a priori* proofs as an advance over the empirical proofs offered by Newton and other physicists (*M* 549. 4–9f.).

44 KANT'S PHORONOMIC BASIS FOR DYNAMICS

In "Dynamics" (*M* ch. 2) Kant explicates matter as the moveable insofar as it fills a space, where matter fills a space (as distinct from merely occupying it) insofar as it resists any other body that tends to enter that space (*M* 496.5–9, 497.12–13). Initially, it may seem that Kant's first explication of matter in "Dynamics," as something that fills a space by resisting the entry by other bodies into the space it occupies, simply asserts a dynamic theory of matter, since resistance would seem to be the effect of some sort of causal force. This appearance is misleading. The idea that matter resists penetration of the space it occupies is held in common by corpuscular theories and Kant's dynamic theory of matter. The crucial point concerns how each theory explains this resistance. According to corpuscularism, matter is particulate, and the basic particles of matter are essentially impenetrable. Impenetrability is an intrinsic property of matter, not the effect of some more basic kind of force. The only active forces, according to corpuscular doctrine, are those imparted from without by impact. Kant initiates his argument against corpuscularism with the first Proposition (*Lehrsatz*) of "Dynamics," that matter fills a space not simply by existing, but by a particular moving force (*M* 497.14–16). Kant's proof of this proposition rests explicitly on the Proposition defended in "Phoronomy" (*M* 497.23). Unfortunately, his proof is fallacious and misrepresents the Phoronomic Proposition (§46). Seeing why this is so, and what this implies, requires examining some of the main aims and doctrines of Kant's first chapter, "Phoronomy."

[12] A182, 4:124.20–2; B224, 3:162.5–6; A189, 4:128.26–7; B232, 3:166.32–3; A211, 4:141.10–11; B256, 3:180.25–7.

[13] *M* 541.28–30, 543.16–17, 544.32–3.

45 PHORONOMY

Kant's aim in "Phoronomy" is to set out the purely quantitative characteristics of motions and their combinations in order, ultimately, to provide a conspicuous physical account of the combination of motions effected by actual causes (*M* 487.10–14, cf. 495.24–6). More specifically, Kant is concerned to provide a clear account of the purely quantitative aspects of motions, the extensive magnitudes of space traversed (including direction) within an elapsed time, in order to clarify the intensive aspects of motions, beginning with the rates of changes of place (speed) (cf. *M* 493.34–494.1). Kant rightly remarks that it is not self-evident that speeds (quite apart from accelerations) are inherently additive in the way that the extensive quantities of distance or volume are (*M* 493.26–494.1). Consequently, "Phoronomy" is a pure kinematics that abstracts from all causal considerations and treats solely the quantitative aspects of motion, direction, and speed, and the quantitative combination of motions.[14]

Although "Phoronomy" abstracts from causes, Kant plainly intends to treat motions that can have a physical basis. Because Phoronomy cannot treat motions that have causes, such as curvilinear motions, it is restricted to rectilinear motions (which can be inertial).[15] Kant thus needs to treat combinations of rectilinear motions in the same direction, in opposite directions, and in diverging directions (where the directions of the motions form an angle).[16] Since these are supposed to be cases of combined (rather than successive) motions, they must be motions of the same point at the same time (cf. *M* 490.28–30). Kant repeatedly insists that combinations of motions in the same space can only be understood in causal terms, and conversely, that purely quantitative (noncausal) combinations of motions require distinct spaces.[17] These distinct spaces are relative spaces which, like modern reference frames, can be understood to move with respect to each other within a larger relative space (or frame of reference). Absolute motion

[14] Phoronomy abstracts from causal considerations: *M* 480.15–18, 486.36–487.10, 489.14–20, 492.15–18, 493.11–14, 494.5–14, 494.28–38; it treats solely the quantitative aspects of motion, direction, and speed: *M* 483.26–8, 484.36–7, 489.11–12; it treats the quantitative combination of motions: *M* 489.14–20.

[15] *M* 488.26–31, 495.5–12. If Kant were not anticipating the application of his phoronomic analysis to actual motions of physical bodies, he would have no grounds for focusing on rectilinear or even curvilinear motions, as contrasted with, *e.g.*, triangular motions or just plain random ones. This issue reappears in Kant's proof of the law of inertia (below, §56).

[16] These are the three cases Kant treats in his proof of the Phoronomic Proposition, *M* 490.15–16, 491.11–13, 492.1–3.

[17] *M* 490.7–13, 493.14–24, 494.1–14, 494.28–495.3.

is a fiction, and absolute space is merely an idea of reason in accord with which we can construct ever larger, more inclusive relative spaces.[18] A relative space may be treated as "absolute" for purposes of analyzing motions within it, whether those motions be of bodies or of other relative spaces.[19] "Motion" is thus relative to what is regarded as stable, which may be either a body or a relative space (reference frame) (*M* 487.15–20).

One point distinguishing Phoronomy from geometry is that Phoronomy considers time, the period that elapses during a motion (*M* 489.6–12). Motions occurring at different times are distinct motions. Since Phoronomy treats the combination of motions, the combined motions must be understood as occurring simultaneously. This cannot be achieved by chronometric means, by measuring the equal duration of motions occurring at different times and computing their combination, because chronometric techniques of any kind presuppose what Kant's phoronomic constructions are supposed to prove, namely, that mathematical measures can be applied to experienced motions (cf. *M* 487.10–11). Consequently, Kant's phoronomic constructions of combinations of motions must allow the two combined motions to occur simultaneously. (The problems involved in combining more than two motions reduce to those of combining two motions.[20]) The two combined motions are motions of the same point, and the two component motions are to be contained in the resultant motion; they are not to produce a third motion.[21] In this way Kant seeks to make intuitively evident *a priori* the geometrical congruence between the two combined motions and a third motion,[22] which, under physical conditions, would be their result. Consequently, Kant's phoronomic constructions must use simultaneous motions of or within distinct relative spaces (*M* 493.14–24).

Kant summarized these doctrines in the sole Proposition defended in "Phoronomy":

> The composition of two motions of one and the same point can only be thought of by one of them being represented in absolute space, but instead of the second motion being so represented, a motion of the relative space in the opposite direction and with the same velocity is represented as being identical with the first motion. (*M* 490.7–13)

[18] *M* 481.12–25, 481.28–37, 482.3–6, 487.22–9, 488.1–7, 488.15–17.
[19] Cf. *M* 490.8–13; Carrier (1992).
[20] *M* 489.2–4, 489.17–18, 489.21–5.
[21] *M* 489.14–20, 492.15–18, 493.11–14.
[22] *M* 486.30–4, 489.1–4; cf. 486.36–487.4, 489.14–20.

It is sufficiently evident that the composition of two motions can be represented by recourse to distinct relative spaces or frames of reference. The important point for present purposes is why Kant thinks it can only be represented in this manner, for these reasons underscore the necessity of distinguishing relative spaces in phoronomic constructions. (This is important later for understanding Kant's misuse of the Phoronomic Proposition to support his dynamic theory of matter; §46.)

Kant's proof of the Phoronomic Proposition treats three cases; two motions in the same direction, in opposite directions, and in diverging directions. In combining two motions in the same direction (case one), a line segment in a single space that represents the total distance traversed by the combined motions must be understood as occurring in the same period of time as each of the component motions; otherwise that line segment would not represent the combination of those two motions. Consequently, no parts of that line segment can represent either of the component motions, because the distances represented by any subsegments of that line segment cannot themselves be understood as being traversed in the very same period of time as either of the component motions. (The period of time in which any subsegment is traversed must be less than the total elapsed time, yet each of the component motions lasts the whole elapsed time. Each of the component motions must last the whole elapsed time, for as soon as one of the component motions ceases, so does the combination of that motion with any other motion.) Consequently, one line segment in a single space cannot represent the combined velocities of the two motions (*M* 490.15–34).

The second case combines two motions of the same point in opposite directions. Kant simply asserts that the thought of combining two such opposed motions of the same point at the same time in the same space is simply impossible (*M* 491.17–21). The impossibility apparently lies in the fact that such an intuitive construction would at best present the difference between the two motions, and would fail to represent the two component motions themselves, though representing those component motions was the very point of the construction. As in case one, recourse to distinct relative spaces is the only way to represent the two component motions and make intuitively evident their congruence with some third motion.

Case three combines two motions of the same point in diverging directions. Once again, attempting to construct such a combination in a single space fails to represent either of the component motions. At best, such a construction would present the vector sum of the two component motions, as the product of the two component motions' mutual alteration. Kant

insists that the point of his phoronomic constructions is that the two component motions should be contained in a third motion, not that either of them should be altered nor that they should produce a third, distinct motion (*M* 492.1–18). Once again, the only way to represent the two component motions as being contained in a third motion is to construct the two motions in distinct relative spaces.

46 KANT'S FALLACIOUS USE OF THE PROPOSITION OF PHORONOMY

My point in reviewing these doctrines from "Phoronomy" is to show as clearly as possible the problems Kant creates when he cites the Phoronomic Proposition in his proof of the first Proposition of "Dynamics," that matter fills space in virtue of its moving force. Kant's Proposition 1 of Dynamics and its proof state:

> Proposition 1. Matter fills a space, not by its mere existence, but by a special moving force. (*M* 497.14–16)

> Proof. Penetration into a space . . . is a motion. The resistance to motion is the reason why motion diminishes or even changes into rest. Now, nothing can be combined with any motion as lessening or destroying it but another motion of the same moveable thing in the opposite direction (phoronomic proposition). Consequently, the resistance offered by a matter in the space that fills it to all intrusion by another matter is a cause of the motion of this other matter in the opposite direction. But the cause of a motion is called moving force. Consequently, matter fills its space by moving force and not by its mere existence. (*M* 497.17–28)[23]

In response to Tuschling's critique of Kant's *Foundations*, McCall cites most of this passage (beginning with the third sentence, "nothing . . .") and states:

> [Kant] is not arguing here that force is nothing but an opposition of perceptible motions but, rather, that force is effective in resisting a motion only through the mediation of a motion in the opposite direction. I find here no derivation of force from motion – only the recognition that motion can be opposed only by motion. (McCall 1988, 70; citing Tuschling 1971, 108)

However, McCall does not examine Kant's Phoronomic Proposition or what Kant could possibly mean by citing it in this proof. Examining Kant's use of the Phoronomic Proposition in his proof of the first Proposition of

[23] By "a matter" Kant here means a material body, not a kind of matter.

Dynamics reconfirms Tuschling's charges that Kant here attempts to justify the ascription of forces to matter on the basis of mere motions, and that this attempt fails. Kant's proof both begs the question and misuses his own Phoronomic Proposition.

Kant's "Phoronomy" is a purely quantitative analysis of the direction and speed of motions, and expressly excludes any analysis of their causes. The motions at issue in Kant's proof that matter has a moving force involve material bodies entering spaces occupied by other material bodies; the doctrine of motion that provides the principles of Kant's proof is Phoronomy. In his proof Kant prominently appeals to the Phoronomic Proposition; remove that appeal and his argument is incomplete. Consequently, his inference from changes of motions, to causes of changes of motion, to moving forces as causes of changes of motions, is, as Tuschling claims, an attempt to justify the ascription of forces to matter on the basis of mere motions, because Kant argues that only by ascribing basic moving forces to matter can it so much as be conceived to fill space.

There are two main problems with Kant's appeal to the Phoronomic Proposition in his proof that matter fills space by its moving force. In "Dynamics" (*M* ch. 2), Kant cites the Phoronomic Proposition as follows:

> nothing can be combined with any motion as lessening or destroying it but another motion of the same moveable thing in the opposite direction (phoronomic proposition). (*M* 497.21–3)

The most obvious problem is that Kant here speaks of one motion "lessening or destroying" another motion. In this context, "destroying" (*aufheben*) and "lessening" (*vermindern*) either are causal terms or they are not. If they are not causal terms, they do not serve to introduce forces into Kant's argument. Hence forces must be introduced by others of Kant's premises. The other premises cannot do this validly (see below). If they are not causal terms, they cannot serve as the inferential link Kant's argument needs to show that the repulsive force of matter causes it to repel other bodies.

On the other hand, if they are causal terms, they cannot be justified by appeal to the Phoronomic Proposition.[24] Causal terms were explicitly and

[24] It is clear that they are to be understood as causal terms in "Dynamics." Recall Kant's metaphysical aim to understand the very "inner possibility" of matter (above, §43) and the parallel usage in his essay on negative quantities: "Die Realrepugnanz findet nur statt, insofern zwei Dinge als *positive Gründe*, eins die Folge des andern aufhebt" (2:175.34–5); "Man versuche nun, ob man die Realentgegensetzung überhaupt erklären und deutlich könne zu erkennen geben wie *darum, weil etwas ist, etwas Anderes aufgehoben werde*, und ob man etwas mehr sagen könne, als was ich sagte, nämlich lediglich, daß es nicht durch den Satz des Widerspruchs geschehe" (2:203.32–6). Cf. "Der einzig mögliche Beweisgrund zu einer Demonstration des Daseyns Gottes" (2:86.5–15).

repeatedly excluded from Phoronomy in general, and they certainly do not appear in Kant's statement of the Phoronomic Proposition (quoted above, p. 183). Consequently, Kant cannot justify their introduction into his proof of the first Proposition of Dynamics by citing the Phoronomic Proposition.

Regardless of whether those terms are causal, there is another, equally serious problem with Kant's citation of the Phoronomic Proposition in this proof. In order for one motion to decrease or destroy another motion, those two motions must not only be motions of the same body, they must occur in the same space. However, the very point of Kant's Phoronomic Proposition and its proof is to show that the phoronomic construction of combinations of motions required distinct spaces for each motion (§45). Consequently, Kant cannot justify the central premise of his proof in "Dynamics," that "nothing can be combined with any motion as lessening or destroying it but another motion of the same moveable thing in the opposite direction," by appeal to the Phoronomic Proposition.

It may seem that Kant's proof could be supported, not by the Phoronomic Proposition itself, but by part of its proof, specifically the negative part showing that combining motions in the way required by phoronomic constructions cannot be achieved in a single space. Kant's subproofs show that combining motions in a single space results in a motion that is their product, but which does not contain them as components. Could these subproofs be used to prove that the motion that results from combining motions in a single space is a causal product of causally active material bodies? No. Kant does insist, in the third subproof, that the "alteration" or the "production" of a third motion is excluded from Phoronomy, and yet is required in order to construct the combination of diverging motions in the same space (*M* 492.14–18). However, the alteration and production at issue in that subproof are strictly quantitative, mathematical notions. Each of Kant's subproofs treats motion in strictly quantitative terms; none of them analyzes the causal etiology or structure of motion. Consequently, those subproofs cannot themselves be used to justify the introduction of causal terms into Kant's proof of the first Proposition of Dynamics. On the contrary, those subproofs underscore the original point that appealing to Phoronomic considerations in a proof that matter is invested with – indeed, constituted by – moving forces amounts to an attempt to justify the ascription of basic forces to matter on the basis of motions. Kant's proof of the first Proposition of Dynamics is fallacious. Kant's inference, that "Consequently, the resistance offered by a matter in the space that fills it to all intrusion by another matter is a cause

of the motion of this other matter in the opposite direction" (*M* 497.24–6), does not and cannot follow from the Phoronomic Proposition, nor from any other of Kant's phoronomic considerations.

It may be suggested that Kant's proof could be supported instead by his repeated claim that motions can only be combined within a single space by recourse to causes.[25] Though this may seem to be the needed principle, Kant merely asserts that principle without argument, and it is not the requisite principle after all. Instead, close examination of this claim reveals another fallacy in Kant's argument. Although these causes must be some sort of "moving causes" (*M* 493.21), in two of the passages in which Kant states this, he rightly indicates that the causes required to combine motions in a single space are "external" causes.[26] "External causes" are not identical to the "moving force" Kant seeks to show is an essential internal property of matter as such, in the first Proposition of Dynamics and its proof. Kant's proof ends with the inference that "the cause of a motion is called moving force. Consequently, matter fills its space by moving force and not by its mere existence" (*M* 497.26–8). This is a *non sequitur*; "the cause of motion" to which Kant appeals is the cause of something's moving; it is not the cause of something's filling space, not even if the resistance whereby a body fills a space is part of what enables that body to impart motion to another body (as Kant states both in the immediately preceding premise and in the second sentence).[27]

Kant's central issue in "Dynamics" is what accounts for matter's resistance to penetration. Kant's proof does nothing to advance his case against corpuscularism, which accounts for that resistance by ascribing impenetrability to matter. Kant is right that the law of contradiction does not repel any material bodies (*M* 498.3–5). However, according to corpuscular doctrine, what would violate the law of contradiction is a piece of matter that lacks impenetrability; impenetrability itself is a physical property of matter, and this property of a material body (not the law of noncontradiction) resists the intrusion by other bodies into the space it occupies. Kant's argument does nothing to show that what repels the penetration of a body into the space occupied by another body is its intrinsic moving (repulsive) force rather than any kind of intrinsic impenetrability. His argument does not show that material bodies in motion, whatever may be the external causes of their motion, affect each other's motion on contact in virtue of

[25] *M* 493.14–24, 494.5–14, 494.28–38.
[26] *M* 494.6–7, 494.31; Kant stresses "external" in the second passage.
[27] *M* 497.19–21, 497.24–6; quoted above, p. 185.

internal forces that are essential to, indeed constitutive of, matter.[28] Kant's conclusion, that only a moving force enables a matter to fill space, simply begs the question against corpuscularism.

47 KANT'S DAWNING RECOGNITION OF THE FALLACY

Kant's proof of the first Proposition of Dynamics is unsound. Indeed, the problems with his proof are so great that it is surprising Kant did not notice them immediately. Tuschling (1971, 47f.) notes that the problems with Kant's proof did not escape the notice of one of the first reviewers of the *Foundations*. On December 2, 1786, an anonymous review of Kant's *Foundations* appeared in the *Göttingische Anzeigen von gelehrten Sachen* no. 191. The reviewer commented directly on Kant's chapter on "Dynamics":

> 2nd Chapter. Metaphysical Foundations of Dynamics. Here matter is the moveable that fills space; to fill space is to resist everything moveable that by its motion tends to enter a specific space. Matter fills space, not by its mere existence, but by a moving force – since its resistance to that which tends to enter changes its motion, and nothing can reduce or destroy motion except motion in the opposite direction. To support this the Phoronomic Proposition is cited. (Phoronomy contains the sole Proposition, previously cited, concerning combined motion. The reviewer confesses that he presently doesn't find the same expressly, and, even if he may also have overlooked something, doesn't understand how this could follow from the Proposition cited. A body that moves admittedly remains at one and the same place in absolute space if the plane on which it lies is moved in precisely the opposite direction with the same velocity, but *must every* persisting at a place be thought in this way? *Must* a moving force be ascribed to a wall because one cannot walk through the wall? It is not at all evident how one can base moving force on motion, whatever its source.) (Anon. 1786, pp. 1915–16)[29]

Kant's proof of the first Proposition of Dynamics cannot answer this reviewer's questions; it does not prove that matter fills space in virtue of an original moving force. Tuschling notes that Kant quoted this passage almost verbatim onto one of the loose leafs found with the IV. Convolut of the *opus postumum* (*Loses Blatt* 25).[30] Adickes dates this leaf prior to 1796. Kant read literary reviews avidly and anxiously awaited a response to the

[28] A similar argument to the same conclusion is made by Adickes (1924, 1:188–90).

[29] Landau (1991, 776) claims that A. G. Kästner is the author; Tuschling (1971, 47–9) quotes this passage from the review and offers persuasive evidence that the author was J. T. Mayer. Adickes (1924, 1970) does not cite this review.

[30] 21:415.2–17. The relevant paragraph of the review is quoted in Ak 22:809.

Foundations, especially from Göttingen, home of the physicist he esteemed so highly, Lichtenberg (Tuschling 1971, 39–47). His transcription is likely to have been made shortly after the review would have appeared, no later than 1787. In the midst of his transcription, Kant inserted a parenthetical note defending his appeal to the Phoronomic Proposition: "(NB: The *phoronomic proposition* was cited by me to support the claim that nothing can abolish motion save motion in the opposite direction.)"[31] Kant still insisted on speaking of motion being "abolished" (*aufgehoben*), but for reasons just given (§46), this is the kind of causal idiom that he specifically and of necessity excluded from Phoronomy, and it requires motions in the same space, which were also expressly and necessarily excluded from Phoronomy. Kant tried throughout his career to demonstrate some version of the first Proposition of Dynamics, never with success (Adickes 1924, 1:190). One question posed by the reviewer's objection is, where lies the ultimate source of Kant's difficulty in demonstrating that matter consists of moving force? That source becomes more evident after examining a further problem with his theory of matter Kant noticed a few years later.

48 KANT'S DYNAMIC THEORY OF MATTER

Kant's dynamic theory of matter in the *Foundations* involves a fundamental circularity, which directly undermines the tenability of his metaphysical method for constructing the basic concepts necessary for the possibility of matter. While expositors sympathetic to Kant's *Foundations* have ignored this problem, critics who have emphasized this problem have relied on Adickes's initial formulation of it, without considering Adickes's later retraction of the difficulty. I argue elsewhere that Adickes's initial formulation is inadequate, and that his later dissolution fails.[32] Here I develop an improved statement of Kant's circularity, and show how fundamental this problem is within Kant's theory of matter. Later I show how it reflects adversely on his constructive metaphysical method (§52).

The aim of Kant's dynamic theory of matter is to explain the fundamental properties of matter in terms of basic moving forces (§43). To do so, Kant must describe those forces in a way that preserves the main physical definitions and laws of matter. Matter fills space through its moving forces (*M* 497.15–16), more specifically, through the mutual limitation of its

[31] 21:415.6–8; Kant (1993), 3.

[32] Westphal (1995a), §V. Förster (2000, 34–5) identifies the basic circularity, though he assumes (2000, 35) rather than demonstrates it.

attractive and repulsive forces (*M* 510.28–511.12). Matter fills a space by repelling other things from the space it occupies (*M* 497.15–28). The action of repulsion alone would dissipate matter throughout space (*M* 508.27–32). The action of attraction alone would compress matter into a mathematical point that may be located in space, but would not occupy space and so would not exist; space would thus be empty (*M* 511.3–11). Hence a material substance exists and fills a space through the interplay of its attractive and repulsive forces; both are essential to and constitutive of matter (*M* 511.14–18).

Problems arise when Kant tries to specify the volume and density of matter. The space a matter fills is determined by the balance between its attractive and repulsive forces (*M* 521.7–8). Density is a function of the intensity with which the two opposed basic forces fill a region of space (*M* 525.29–30; cf. 526.2–4). The attractive force, which Kant ultimately identifies with Newtonian gravitation, is to be the same in all materials. Repulsive force, which acts only at the surface of a matter, and hence only on contact, is supposed to differ in different materials. In this way, Kant seeks to account for different densities of different materials as an original property of those materials, without recourse to the corpuscular hypothesis of vacant interstices between otherwise equally dense fundamental particles (*M* 523.21–524.17).[33]

49 IDENTIFYING KANT'S CIRCLE

Kant himself came to think that his theory of matter was circular. There are two relevant passages. The first comes from Kant's remarks on a letter from J. S. Beck (Sept. 8, 1792):

[Passage I] The greatest difficulty is to explain how a specific volume of material is possible by the inherent attraction of its parts in the ratio of the inverse square of the distance, [in conjunction] with a repulsion, which can only affect those parts which are in immediate contact (not those at a distance), in the ratio of the cube of the distance (and hence of its volume). Thus the power of attraction depends on

[33] Kant disavows the relation (*Verhältniß*) or comparison (*Vergleichung*) of the densities of different matters (*M* 526.4–11). However, this remark directly follows Kant's assertion that "in [Kant's] dynamic system [*i.e.*, theory of matter] involving a merely relative impenetrability there is no maximum or minimum density" (*M* 525.38–9) and that a matter "is of course in comparison with another [matter] less dense, in the dynamic sense, if it indeed fills its space completely, though not to the same degree" (*M* 526.2–4; cf. 523.21–524.17). Given that context, Kant's disavowal must concern specifiable ratios (one meaning of the German term "*Verhältnis*" is ratio) of density between different kinds of matter. This accords with Kant's insistence that the quantity of matter can only be estimated mechanically (*M* ch. 3).

density, but density depends again on the power of attraction. Also, density varies in accord with the inverse ratio of repulsion, that is, of the volume.

(Ak II, 1st edn 348; 2nd edn 361.30–362.2)[34]

The second passage comes from Kant's reply to Beck (Oct. 16, 1792). Kant praises Beck for recognizing the importance of the physical question of explaining differences of density without recourse to vacant interstices. He then states:

[Passage II] I would of course set up the solution of this problem as follows, that attraction (universal, Newtonian) originally is equal in all materials while only the repulsion of different materials differs, and thus constitutes the specific differences of density. But this leads in a certain way to a circle I can't get out of and which I myself must try to understand still better.

(Ak II, 1st edn 362; 2nd edn 376.35–377.4)[35]

Kant's statements are characteristically compressed. With care, however, Kant's circle can be identified precisely.

Kant's problem concerns the relations among the two basic forces, volume, and density. Kant holds that the volume of a basic matter is a function of the balance between its basic attractive and repulsive forces (*M* 521.7–12; cf. above, p. 191). (Kant speaks of the "parts" of a matter in the *Foundations* and in his notes on Beck's letter.[36] I speak of "basic matters" to avoid exacerbating the atomistic or monadic tendency of Kant's view.) Only an opposing basic force can limit a basic force (*M* 508.18–32). The volume or the space a basic matter fills must be a sphere whose radius is determined by the distance from a center point, from which the two basic forces radiate, at which these two forces balance each other. This geometry of center point plus sphere is entailed by the inverse rates of diminution Kant ascribes to his basic constitutive forces. Diminution of a force over distance must be diminution from some initial point. Nothing in Kant's

[34] Cited by Adickes, Ak 14:337.18–25 and (1924), 1:214. Kant states: "Die größte Schwierigkeit ist zu erklären wie ein bestimmtes *Volumen* von Materie durch die eigene Anziehung seiner Theil[e] in dem Verhältnis des *Quadrats* der Entfernung *inverse* bey einer Abstoßung die aber nur auf die unmittelbar berührenden Theile (nicht auf die Entfernten) gehen kan[n] im Verhältnis des *Cubus* derselben (mithin des *Volumens* selber) möglich sey. Denn das Anziehungsvermögen kommt auf die Dichtigkeit diese aber wieder aufs Anziehungsvermögen an. Auch richtet sich die Dichtigkeit nach dem umgekehrten Verhältnis der Abstoßung d.i. des *volumens*."

[35] Cited by Adickes, Ak. 14:337.29–35, and (1924), 1:214. Kant's original runs: "Ich würde die Art der Auflösung dieser Aufgabe wohl darin setzten: daß die Anziehung (die allgemeine, Newtonische,) ursprünglich in aller Materie gleich sey und nur die Abstoßung verschiedener verschieden sey und so den spezifischen Unterschied der Dichtigkeit derselben ausmache. Aber das führt doch gewissermaaßen auf einen Cirkel aus dem ich nicht herauskommen kan[n] und darüber ich mich noch selbst besser zu verstehen suchen muß."

[36] *E.g.*, *M* 499.14–15, 499.18, 517.28, 518.21, 524.7–8, PASSAGE I above.

model does or can limit the directions in which the basic forces radiate. Hence the spherical surface of an undisturbed matter results from the radial distance at which its two basic forces counterbalance.

Kant's basic attractive force is supposed to be constant in all materials, while the repulsive force is supposed to differ, and such differences are supposed to account for differences in density. This strategy cannot work. The balance between the two forces is struck at whatever point their respective scalar strengths are equal. A different degree of repulsive force changes the spatial determination (the radius of a spherical surface) at which this balance occurs, but not the scalar intensities of the forces involved. Because the attractive force is constant, the repulsive force that balances it cannot change in scalar degree, however much it may change in intensity. Instead, the volume occupied by those balanced forces would vary inversely with the strength of the repulsive force. Kant's theory of the volume and density of matter as a function of the balance of the two basic forces entails that basic matters with different degrees of repulsive force must differ in *volume*! They would thus also differ in density because a stronger repulsive force would balance the same degree of attractive force within a smaller volume, but the total (scalar) quantity of these forces must be the same in all basic matters. Thus basic matters must all fill their respective spaces to the same (scalar) degree of intensity.

This is absolutely not the result Kant sought or claimed. He claimed to have a theory according to which the same sized basic matters could differ in density (*M* 533.36–534.5). Kant's dynamic theory of matter thus leads quickly in the direction of either corpuscular atomism or physical monadology, both of which he sought to avoid.[37] Hence Kant is correct (in PASSAGE I) that the problem of density arises in connection with the question of how a determinate *volume* of matter is constituted by the opposition of the two basic forces of attraction and repulsion.

Once Kant's basic matters are found to fill different spherical volumes of space to the same degree, Kant must account for differences in density between the equal volumes of matter with different densities in terms of the different number of basic matters contained in each respective volume of matter. In "Mechanics" (*M* ch. 3) Kant defines the quantity of matter in terms of the "amount" of the moveable found in a specific space (*M* 7.12–13), though he does not recognize that he must treat this "amount" in terms

[37] For Kant's criticisms of physical monadology, see *M* 504.10–505.7, 539.32–540.4. On the tendencies of Kant's theory of matter in the *Foundations* to revert to atomism or monadism, see Adickes's editorial comments (Ak 14:338.20–339.10).

of a number of discrete spherical basic matters. Once Kant is forced to account for differences of density by recourse to different numbers of different sizes of basic matters, his theory generates the same license to speculate for which he so sharply criticized corpuscularism.[38] Because matter is constituted by the balance of two opposed basic forces that radiate from a common central point, these basic matters must be spherical. Spheres do not conjoin into larger volumes without either large distortions or vacant interstices.[39] On this latter option, Kant's view would entail that denser materials have *more* interstices of smaller volume than do less dense materials of equal total volume. Interstices may not be explanatory on this account, but they occur, and are just as vacant as the corpuscular interstices Kant sought to banish for not being objects of possible experience.[40] On the former option, according to which originally spherical basic matters form larger solid materials through distortion of their spherical forms, speculation must abound about the processes through which or the functions according to which these distortions and combinations occur. For bridling speculation, Kant's dynamic theory of matter is no better than corpuscularism.

Kant can only avoid the other result, that different materials with different densities would consist of different sizes of basic matters, by distinguishing two different kinds of attractive force, one responsible for the basic constitution of matter, and another responsible for gravitational attraction. On this alternative, the basic attractive force constitutive of matter would have to vary directly with the absolute value of the repulsive force, and both would vary directly with density (for any given volume). Gravitational attraction would then have to be a second kind of attractive force, one that depends directly

[38] *M* 524.10–12, 524.40–525.7, 525.12–19.

[39] I cannot find any way for Kant's theory to avoid this implication. Kant argues for the continuity (as opposed to the discreteness) of matter by arguing that matter is potentially infinitely divisible, though it is not actually divided (*M* 503.21–504.8). In this argument Kant overlooks the implication that, because the strength of both the basic forces diminishes with distance, regions of a matter nearer the center of the matter must be more intensively occupied by those forces than regions nearer the periphery of the matter. Consequently, the density of matter must diminish with distance from the center of any matter. Hence any regions divided out of a matter that differ in their distance from the center would also differ in density. Hence they would be different kinds of matter! (Kant himself treats subregions of [pieces of] matter as *real* divisions when he tries to account for division of bodies, fluidity or rigidity, and chemical reactions such as dissolution, or for physical interpenetration; *M* 502.33–503.2; 503.12–19, 504.1–7; 526.35–528.15; 530.11–35; 540.4–12; 542.10, .15–18; cf. 531.15–22, 541.10.) Kant's view that matter is continuous does not fit with his basic dynamism at all. For further discussion of Kant's theory of matter, see Kötter (1991), Carrier (1990, 1991), and Falkenburg (2000).

[40] *M* 535.5–10; cf. *KdrV* A172–5/B214–16, 3:155.32–157.18; A214/B261, 3:183.8–12.

upon density and volume. However, admitting two fundamental kinds of attractive force is tantamount to admitting the untenability of Kant's constructive metaphysical methods (§52). We must be quite clear about why Kant is forced to admit two different kinds of attractive forces. Clarifying this point requires answering the original question, "What exactly was Kant's problem with circularity? How does density figure into that problem?"

Notice that PASSAGE I speaks of "the greatest difficulty," and formulates a circularity: briefly, attraction depends on density, which in turn depends on attraction. Kant's reference to a "greatest" difficulty suggests he is troubled by more than one problem. Consider again the elements in Kant's first formulation. Kant's theory of matter requires that the two basic forces differ in certain regards if they are to make matter possible. If they are not simply to neutralize one another altogether, they must act differently and, Kant thinks, they must diminish with distance at different rates (*M* 517.18–35). Kant claims that constitutive attraction force is a penetrating force, effected by all the parts of a matter and effective immediately (without contact) through all of space,[41] though diminishing by the inverse of the square of the distance (*M* 521.4–5). He claims that the constitutive repulsion is a superficial force, effective only at the surface of contact between bodies, and effected by only those parts of the bodies that are in contact;[42] it diminishes by the inverse cube of the distance (*M* 521.5–7). Hence repulsive force varies directly with volume (PASSAGE I).

Kant says there that his "greatest difficulty" lies in explaining how a specific volume of matter is possible on the basis of the balance between these two forces (cf. *M* 521.7–12). This difficulty cannot lie in specifying the laws according to which these two forces function; those laws belong to mathematical physics, not to metaphysics (*M* 517.18–518.2). Kant's problem must lie in his fundamental metaphysical concepts and constructions. Kant's problematic is set by the Newtonian physical principles whose metaphysical basis he sought to provide. According to Newtonian principles, the force of attraction is proportional to mass, and within a given volume mass is proportional to density. Hence, within a specific volume, the force of attraction must be a function of density. This conflicts with Kant's official view, according to which density is supposed to be a function of the balance of the two basic forces.[43]

[41] *M* 516.14–26, 517.18–21, 518.17–19.
[42] *M* 516.2–4, 516.9–14, 524.7–10.
[43] *M* 525.29–30, cf. 526.2–4, Ak 14:338.2–3.

It may seem that Kant's problem rests on a simple oversight. On the general principles of Kant's dynamic theory of matter, density should be a function of the degree to which a given region of space is filled by mutually counterbalancing attractive and repulsive forces. In this way, density should be directly proportional to the combined *absolute* value of the intensities of these two forces.

To appreciate the metaphysical difficulty facing Kant's dynamic theory, one historical point should be set aside. The definition and symbolism for absolute value (the value of a magnitude irrespective of its sign) had not been developed in Kant's day.[44] However, introducing the concept of absolute value cannot solve Kant's problem. Instead, this concept helps to show clearly the nature of the metaphysical problem Kant faces.

On Kant's theory, density should be directly proportional to the combined absolute value of the intensities of the two basic forces that counterbalance each other in any basic matter. However, to preserve the Newtonian principle that gravitational attraction is proportional to mass, Kant must distinguish gravitational attraction from the original force of attraction that, on his theory, combines with the original repulsive force to determine the basic quantity of matter. It is important to distinguish which quantities are proportional to which, and which are functions of which, because proportions are symmetrical (strictly, they are convertible) relations, while functions (in the relevant sense) are asymmetrical (nonconvertible) dependencies. On Kant's view, density and volume are functions of the original repulsive and attractive forces. However, gravitational attraction cannot be identified with the original attractive force that partially constitutes any matter. This is because, to retain the Newtonian equation, gravitational attraction is a function of density and volume, where density and volume are functions (in Kant's theory) of the absolute values of *both* of the original attractive and repulsive forces. Therefore, gravitational attraction cannot be identified with Kant's basic attractive force constitutive of matter. This is because the original attractive force is only one of the two basic forces of which gravitational attraction is a function. Consequently, gravity cannot be an "original" force of matter; given Kant's account of density, gravity is a "derivative" force, deriving from and dependent on the two supposed basic forces of constitutive attraction and repulsion.

Kant's theory of matter aimed to improve on Newton's official agnosticism about whether gravity is essential to matter. Kant thought he could

[44] It was developed in 1841 by Weierstrass (1894, 1:67); see Cajori (1929, 2:123).

show that Newtonian principles required ascribing gravity directly and essentially to matter; in the *Foundations*, Kant tried to show this.[45] However, his proof requires that gravity is the one and only basic (or "original") attractive force essential to matter. The problem of circularity in his analysis of density shows that Kant cannot justify this identity. Consequently, Kant's argument in "Dynamics" fails to fulfill one of its main aims. Kant can only avoid the problem of circularity by distinguishing two kinds of attractive force. (This finding relies solely on the concepts at issue within Kant's "Dynamics"; *M* ch. 2.)

Density is central to Kant's problem because Kant sought to explain how equal volumes of different basic matters could differ in density. As shown above, he can only do this by rejecting his view in the *Foundations* that the basic attractive force is the same in all materials. Thus Kant is right to focus on density in his note and in his letter to Beck (PASSAGES I and II). However, Kant's problem with density directly raises the problem of circularity, since solving the problem of density requires admitting that the original force of attraction differs in different materials, just as does the force of repulsion. Once this is admitted, it is virtually impossible not to recognize that gravitational attraction is a function of both of these forces. Hence the problem of density raises the problem of circularity, which requires both distinguishing two different kinds of attractive force and demoting gravity to a derivative force. Recognizing these points requires rejecting the theory of matter propounded in the *Foundations*, and along with it the metaphysical method undergirding that theory (below, §52).

50 KANT'S PROBLEMS WITH COHESION

A closely related implication is important here. Within Kant's theory of matter in the *Foundations*, the basic constitutive force of repulsion is a superficial force, which is exactly counterbalanced by the force of attraction at the spherical limit of the volume of any basic matter. The force of repulsion is effective only in contact; its effectiveness vanishes outside the spherical limit of the basic matter. Consequently, Kant must introduce yet a third attractive force to account for the cohesion of matters that form a plurality of basic material parts. Hence Kant's remarks about the importance – especially within his theory of matter – of the questions of cohesion and rigidity (*M* 529.18–25).

[45] See Proposition 7 of Dynamics, and the second Remark on it (*M* 512.17–32, 514.11–515.37).

Kant contends that cohesion is not a basic power of matter for several reasons: it does not belong to the possibility of matter in general (*M* 518.25–31), it is effective only between basic matters of the same kind of material (and so is only disjunctively, not collectively, a universal property of matter), it is not always proportional to density, and its effect depends upon a matter undergoing liquefaction and solidification (*M* 526.12–35). These are plausible reasons for Kant's contention, but their strength is mitigated by the problems facing Kant's theory of density (above, §49), which point to the insufficiency of attraction and repulsion for explicating the possibility of matter in general. Kant defines original (or, I have said, "constitutive") properties of matter as essential properties that cannot be justified on the basis of other properties of matter (cf. *M* 500.1–6). Kant cannot derive cohesion from the other essential properties of matter he enumerates, although it is crucial for explaining many common and scientific phenomena – so crucial that it may be held to be essential to matter. This may contravene Kant's metaphysical grounds for specifying what is essential, namely that it be a condition for the inner possibility of something (*M* 511.14–15), where this "inner possibility" must be a function of rational elements of knowledge or construction, that is, the first *Critique* and the *Foundations* (*M* 517.36–518.1). However, this may instead be one more unsupportable implication of Kant's metaphysical attempt to ground science: Newton's laws hold of ponderable bodies, or tiny (even "imponderable") parts thereof; they do not obviously hold of Kant's basic matters. Kant cannot link his basic matters to ponderable bodies, or even to parts thereof, without a metaphysical construction of cohesion.

51 A FURTHER CIRCULARITY IN KANT'S ARGUMENT

My first main objection to Kant's dynamic analysis of matter is this: the invalidity of Kant's proof of the first Proposition of Dynamics, that matter fills space by virtue of its moving force of repulsion, shows that considerations of Phoronomy do not suffice to justify ascribing forces to moving matters; certainly not within the constraints of Kant's *a priori* metaphysical constructions (§46).

This point is reinforced by noticing a further circularity in Kant's argument. Kant explicates matter in "Mechanics" (*M* ch. 3) by arguing that matter is the moveable insofar as it possesses moving force (*M* 536.6–7). This explication presupposes his argument in "Dynamics," that matter fills space by virtue of its moving force (*M* 536.15–537.1). However, examining Kant's justification for his mechanical explication of matter shows that

he implicitly appealed to mechanical considerations in his proof of the first proposition of Dynamics! Kant states that, in contrast to the mechanical explication (*M* ch. 3), the mere dynamic concept of matter (*M* ch. 2) could regard matter as being at rest (*M* 536.9–12). Kant insists that nothing moveable would have moving force were it not effective in the space it occupies in virtue of an inherent force, whether repulsive or attractive, through which alone it can convey motion to other moveable things (*M* 536.15–537.4). Kant claims that repulsion is an original moving force by which a matter imparts (*erteilen*) motion, while the force of a moving matter enables it to communicate (*mitteilen*) motion to another matter (*M* 536.13–15). The problem with this way of distinguishing between the dynamic properties of stationary matter and the mechanical properties of matter in motion is that, according to Kant's own Phoronomy, what is at rest and what moves is merely a function of one's frame of reference (*M* 538.22–5; above, §45).

Kant's proof of the first Proposition of Dynamics may have treated one body at rest, but it treated another matter as being in motion, impacting on the matter at rest and then rebounding from it (*M* 497.18–19, 497.25–6). As Kant's Remark on the Mechanical explication of matter indicates, neither matter would impart motion to the other if they did not both possess an original repulsive or attractive force (*M* 536.18–23). Only Kant's analysis of the forces of moving matters in "Mechanics" can justify his use and interpretation of the second, moving matter in his proof of the first Proposition of Dynamics. If Kant can distinguish between Dynamics and Mechanics by specifying which matters are at rest and which are in motion, then he cannot appeal to the effect of, nor to the effects on, a matter in motion impacting on and rebounding from a matter at rest in his proof of the first Proposition of Dynamics. If he relinquishes the distinction between Dynamics and Mechanics based on matters being at rest or being in motion, then he has no independent Dynamic principles to which to appeal in his Mechanical explication of matter. In either case, Kant's constructive metaphysical method fails to demonstrate, by considerations of motion – by constructing the minimal empirical concept of matter as the moveable in space in accord with the Categories, forms of intuition, and Principles of the first *Critique* – that matter fills space by virtue of original moving forces.

52 SYSTEMATIC RAMIFICATIONS OF KANT'S PROBLEMS IN THE *FOUNDATIONS*

Each of these problems with Kant's "Dynamics," and especially the two central problems (his fallacious introduction of forces and the circularity in

his definition of the quantity of matter), discredits Kant's metaphysical method in the *Foundations*. Their combined effect is to show that Kant's metaphysical method is specious. Though his analysis of pure kinematics in "Phoronomy" remains intact, at the very least Kant needs a completely different link between it and dynamic forces, and a completely different way of basing his Critical theory of matter on those forces.

The failure of Kant's theory of matter in the *Foundations* to account for density is a crippling defeat for his dynamism. Kant recognized that a major support of corpuscularism lay in its apparently simple account of density. According to corpuscularism, all material bodies consist of microscopic material corpuscles, which are absolutely dense and rigid, interspersed with varying proportions of vacant interstices (*M* 525.31–6). Kant recognized that to undermine corpuscularism it sufficed to provide a theory of matter that could account for density without appealing to hypothetical vacant interstices. He claimed that his dynamic theory of matter did just that, and that his theory provided a superior basis for physical research (*M* 523.21–524.17).

Unfortunately, as Kant came to see in 1792, in PASSAGES I and II (above, §47), the dynamic theory of matter in the *Foundations* cannot account for density *at all*. Kant's dynamic theory of matter can only account for density by admitting that there are two distinct forces of attraction, and that gravity is a derivative, not a basic, force. Kant explicitly distinguished two kinds of attractive force in 1775–7 (about ten years before the *Foundations*), in Reflexion 44 of the *Reflexionen zur Physik und Chemie*, where he distinguishes between the basic constitutive force of attraction, which he ascribes to the aether, and gravitational attraction.[46] Kant rarely mentions the aether in the *Foundations*, and it plays no constitutive role in his published theory of matter. This is no accident. For reasons examined below, Kant's constructive metaphysical method cannot admit more than two basic forces, one attractive and one repulsive. Conversely, admitting two attractive forces thwarts Kant's aim to show that gravity is essential to matter as such.

Note first that admitting two kinds of attractive force and demoting gravity to a derivative status does not solve the other key problem, that Kant's dynamically characterized points generate material spheres that cannot compound without either interstices or severe and speculatively limitless distortion. Whatever may have been Kant's influence on the

[46] Ak 14:334.1–336.6. See Adickes's editorial comments (14:337.2–15).

development of field theory, his dynamic concept of forces is not a field concept, since it is based on individual points in space. Kant must rely on points in space if he is to retain any hope of basing his dynamics in his transcendental epistemology. The connecting link between them is the empirical concept of matter as the moveable in space, which Kant treats as a point ultimately imbued with dynamic forces.[47] Severing that connection requires replacing the *Foundations* with an entirely different link between the general metaphysics of the first *Critique* and empirical physics. However, Kant must give up relying on moveable points in space imbued with causal forces if he is to maintain his view that matter is essentially continuous rather than discrete (*M* 503.21–504.8).

The fact that Kant must distinguish gravity from his basic attractive force, and the serious prospect that he must posit yet a third attractive force to account for cohesion, reflects adversely on Kant's constructive metaphysical method. For all of his qualifications on the metaphysical constructability of the concept of matter, and on his own constructions of it (above, §42), Kant claimed it sufficed for his purposes to present the filling of space as a dynamic property of matter (*M* 522.39–523.4). Kant's "presentation," his metaphysical construction, brings the Categories to bear on the forms of intuition, in connection with the elementary empirical concept of matter as the moveable in space (above, §§43, 48). Kant held that these constructive grounds suffice to demonstrate that only two basic moving forces of matter are possible. This conclusion, Kant argued, follows from the fact that matter can be treated as a moving point, and that two points can only move in two directions with regard to one another; they can either approach or recede. Each kind of basic motion is accounted for by each kind of basic force, attraction and repulsion. Consequently, Kant inferred, only these two basic forces are conceivable (*M* 498.26–499.4; cf. 511.19–26). Kant concludes his argument by speaking of two "kinds" of force.[48] However, Kant cannot be taken to mean by this that there are two genera of basic forces, attractive and repulsive, that are instantiated by various species of each kind. Kant's constructive metaphysical method gives him and can give him no basis for distinguishing among distinct kinds of forces, each of which must be described in identical metaphysical terms as attractive or repulsive. Moreover, Kant intends his two basic forces of attraction

[47] In some notes from the 1770s Kant tries to treat these points as merely heuristic, but even then he was not able to escape his monadological model.

[48] "Also können nur diese zwei Arten von Kräften, als solche, worauf alle Bewegungskräfte in der materiellen Natur zurückgeführt werden müssen, gedacht werden" (*M* 499.2–4).

and repulsion to be explanatory (above, §43), and to be explanatory they must be constitutive, and not merely regulative heuristic classifications. His initial formulation of his thesis, which precedes his proof, reflects this fact by speaking of forces, not kinds of force;[49] he repeats this language in his Remark to Proposition 6 (*M* 511.20). These two "kinds of force" must be the two specific kinds, attractive and repulsive, of the single genus, constitutive forces of matter.

The question is, why should these reasons show that there are only two basic *forces* (as Kant claims), rather than show that there are only two basic *kinds* of force? On what *a priori* basis, whether transcendental or metaphysical, can Kant rule out a variety of attractive or repulsive forces? Indeed, pursuing Kant's own analysis reveals three distinct kinds of attractive force: original, gravitational, and cohesive. The variety of forces (whether attractive or repulsive) could be of two kinds: there might be, for example, different forces of attraction that account for different rates at which two matters approach each other, or there might be different forces of attraction (*e.g.*, gravitational, electrical, or chemical) that could result in two different matters approaching each other at the same rate, though for different causes. Kant's "metaphysical" level of analysis is supposed to abstract from such specific quantitative data (*M* 517.18–35). However, without such data, there are no grounds for speaking of actual *forces* rather than vague "kinds" of force.

The only way Kant could forestall this objection, and the altogether likely reason (I submit) that he disregarded these problems, is that he took his constructive, transcendental idealism too seriously or too far, by assuming that, on the basis of our two *a priori* forms of intuition, space and time, and on the basis of our basic principles of causal judgment, we construct not simply the formal features of what we experience, but in this highly metaphysical case, we *construct* the basic *forces* of attraction and repulsion. I can find no other basis on which Kant could presume to rule out, or simply to neglect, the obvious alternatives regarding basic *kinds* of force just mentioned. I can find no other reasons Kant could have to weld our conception of matter together with the "inner possibility" of matter and so with matter itself in any way that would make plausible his constructive, metaphysical method, and his manifestly invalid inference from two directions of motion (approach or recede) to two and only two fundamental

[49] "Es lassen sich nur diese zwei bewegende Kräfte der Materie denken" (*M* 498.27).

constitutive forces of matter (attractive and repulsive). This suspicion is reinforced below (§§57, 58).

Be that as it may, once Kant is forced to acknowledge that gravity is distinct from his basic attractive force (because gravity is a function of that basic force together with the basic repulsive force), it is evident that Kant's quasigeometrical reasons for maintaining that there can be only two basic forces are specious. This is because his basic argument for there being only two basic kinds of force turns on the two possible alterations of spatial relation between two basic matters; they can either approach or recede from one another. No other spatial relations are possible, certainly not within our pure *a priori* forms of intuition, space and time. Each basic force is supposed to account for one of these two basic relative motions. Kant must link these two kinds of relative motion and (only) two kinds of dynamic force in order to link his metaphysical explication of the *concept* of matter with his intended metaphysical explication of "the inner possibility" of matter (above, §43). This link must rest on his claim that space and time are only forms of human intuition, and that we construct the formal features of our experience by integrating our basic Categories and Principles with our forms of intuition. Only a strong metaphysical, constructivist link like this could underwrite Kant's enthymematic inference from two directions of motion to two basic dynamic forces.

However, even within the framework of Kant's own metaphysical analysis, this link is fallacious: working through Kant's dynamic theory of matter carefully shows why Kant himself had to distinguish at least three basic kinds of attractive force: original, gravitational, and cohesive. By focusing on distance, Kant's presentation suggests rectilinear motions, and obscures, from himself and his readers, the prospect that angular relations could change just as much as distance. Changing angular relations would result in curvilinear or even random motions, the likes of which Kant ruled out of Phoronomy because they presume causes (*M* 480.15–18, 495.5–12; above, §45). This loaded assumption is discussed below (§57).

Kant admitted that, on the basis of his constructive metaphysical methods, he could only suggest possible lines for constructing such important characteristics of matter as density, cohesion, rigidity, or friction (*M* 526–7). The two problems of circularity show that Kant's metaphysical methods in the *Foundations* do not even suffice to justify the basic terms of Kant's dynamic theory of matter, the two basic dynamic forces of attraction and repulsion. An analysis of density is essential to

Kant's purposes of opposing corpuscularism, but his analysis of density shows that gravity cannot be identified with the basic constitutive force of attraction. Bringing the Categories to bear on the forms of intuition and the minimum empirical concept of matter as the moveable in space in the way Kant proposes, and must propose on the basis of his transcendental idealism, affords no insight whatsoever into the "inner possibility" of matter (*M* 511.14–15). Because its arguments are, and are supposed to be, cumulative, the failure of his proof of the first Proposition of Dynamics and the implicit interdependence of Kant's "Dynamics" and "Mechanics" each entails that the *Foundations* provides no *a priori* justification of the kind Kant envisaged of any principles of mechanics, *pace* Kant's hope and aim.[50]

Before considering further the implications of these problems for Kant's Critical program for transcendental idealism, chapter 6 examines Kant's arguments in "Mechanics" (*M* ch. 3) to show that every physical event has an external cause. The problems with these arguments further substantiate and reinforce the critical conclusions just stated. The critical implications of these conclusions for transcendental idealism are considered thereafter (§58).

[50] *M* 549.4–9ff. This, at least, is the official implication, had Kant argued in accordance with his method. As Duncan (1984) points out, Kant's justification of his laws of mechanics is mainly kinematic, not dynamic. In view of Kant's failures, it is worth mentioning one of Kant's successes. Buchdahl (1986, 143–54) notes that Kant does show that the concept of action at a distance is not absurd. Another success is noted in chapter 6.

CHAPTER 6

Kant's metaphysical proof of the Law of Inertia

53 INTRODUCTION

One might suggest that Kant's attempt to provide metaphysical foundations for Newtonian mechanics survives, despite problems identified in chapter 5, because his proofs of the laws of motion are independent of his metaphysical theories of matter. While Kant's proofs are to a certain extent independent of his theory of matter, close examination shows that his proof of the law of inertia is fallacious. Moreover, this fallacy extends and reinforces the problems with Kant's dynamic theory of matter. Indeed, this further fallacy shows that Kant's transcendental and metaphysical efforts to justify even commonsense causal judgments about physical events fail. This implies that causal judgments cannot be justified, legitimated, or shown *a priori* to be "objectively valid" by Kant's transcendental idealism. This Critical failure strongly supports and reinforces the plausibility of philosophical realism. In chapter 7 I argue that Kant's transcendental method and proof strategy provide richer resources for justifying realism and causal judgments than Kant recognized, resources that can dispense with transcendental idealism.

54 KANT'S PLAN FOR METAPHYSICAL FOUNDATIONS FOR NEWTONIAN PHYSICS

According to Kant's *Foundations*, a science, properly speaking, must be organized on rational principles (*M* 467–8).[1] Any proper science has a pure rational *a priori* part, its metaphysical foundation (*M* 469–70; above, §§43, 48). After writing the *Foundations* (1786), Kant claims, in the second edition preface to the first *Critique* (1787), that his transcendental idealist account of time explains the possibility of the synthetic *a priori* cognitions involved

[1] Again in this chapter "*M*" designates Kant's *MAdN*, without reference to Ak 4.

in the universal theory of motion (B49, 3:59.14–16). This refers directly to his purported *a priori* metaphysical proofs of the conservation of matter, the Law of Inertia, and the equality of action and reaction; Propositions 2–4 of *Foundations*, chapter 3, "Mechanics." These are Kant's *a priori* foundations for Newtonian physics. Here I focus on Kant's proof of the Law of Inertia, his Proposition 3.[2] This is Kant's Second Law of Mechanics, that all physical causation is external. There are two defects in Kant's third Proposition. First, it is not equivalent to, and does not entail, Newton's First Law, the Law of Inertia. Second, Kant's proof of that every physical event requires an external cause fails. Hence Kant's *Foundations* cannot fill the crucial gap (exposed in chapter 4) in the *Critique of Pure Reason*.

5.5 KANT'S SECOND LAW OF MECHANICS

Kant's Second Law of Mechanics is:

> Every change of matter has an external cause. (Every body remains in its state of rest or motion in the same direction and with the same speed unless it is compelled by an external cause to forsake this state.) (*M* 543)

Kant's law speaks of the causally unaffected state of a body as either rest or "motion in the same direction." What does "same direction" mean? According to Newton, "same direction" meant rectilinear motion, as he explicitly stated in his First Law.[3] The closely parallel wording between Kant's and Newton's laws strongly suggests that Kant's phrase "motion in the same direction" means "rectilinear motion." This suggestion is reinforced by Kant's claim in "Phoronomy" that he cannot treat nonrectilinear motions there because Phoronomy must abstract from all forces, and such motions presuppose forces.[4]

Note that Kant once acknowledged that progressive movements might be curved:

> [Progressive motions] either enlarge their space, or are limited to a given space . . . The first kind includes rectilinear motions, or also curvilinear [motions] that do not return upon themselves. Motions of the second kind [those limited to a given

[2] Kant's second law and its proof are not discussed in Friedman (1992a), nor in any literature I can locate. Kant's third law, but not the second, is discussed by Duncan (1984).

[3] "Every body continues in its state of rest, or of uniform motion in a right line, unless it is compelled to change that state by forces impressed upon it" Newton (1952a), 14.

[4] *M* 480.15–18, 495.5–12. Kant's statement of Newton's law includes the term "speed" (*Geschwindigkeit*), which Kant may have understood in Newtonian, protovectorial terms. If so, his statement of Newton's law would be correct and would include at least allusion if not reference to rectilinear motion. However, that would make Kant's statement redundant, since he states beforehand sameness of direction (*Richtung*).

space] return upon themselves. These are again either *circular* or *oscillatory*, *i.e.* circular or swinging motions. The first always cover the same space in the same direction, the second always alternate in opposite directions, like swinging pendulums. (*M* 483.8–16)

Two pages later Kant claims that curved motions involve a continuous change of direction, and thus presuppose forces:

Phoronomy, as merely the pure quantitative doctrine of motion . . . contains [only the] possibility of *rectilinear motion* . . . not of curvilinear motion. This is because curvilinear motions continuously change in direction; hence a cause of this change must be introduced, which of course cannot be mere space. (*M* 495.5–12)

This passage clinches the point that by his phrase in his Second Law, "motion in the same direction," Kant intends rectilinear motions.

It may appear picayune, but everything turns on how one understands "motion in the same direction." Newton defined it in terms of rectilinear motion. Aristotle would have defined "motion in the same direction" in terms of something moving towards its natural place. Understood in this way, Aristotle could accept most of Kant's Second Law (rejecting only Kant's claim about the constancy of speed). In another case, planetary motion, Aristotle like other Greek cosmologists understood "motion in the same direction" as motion in the same *circular* direction, and in this case, "speed" was thought to be constant, and motion ceaseless, too. My point is this: Kant's Second Law claims that "every change of matter has an external cause." However, this principle cannot justify the claim that all "changes" in the motion of material bodies are deviations from rest or rectilinear motion without *presupposing* what needs to be proven, namely, that rest or rectilinear motion is the natural state of motion of bodies.[5] Kant's purportedly "metaphysical" proof of Newton's First Law begs the question (*petitio principii*).[6]

[5] Kant does assume this important point right at the beginning of "Phoronomy"; see above, §45.

[6] Brittan (1978, 106–8; 1984, 69–73) nicely shows how "real" motions can be distinguished from "illusory" ones by determining the forces of acceleration acting, or not acting, on bodies, as Newton does in the *Principia* and as Kant explicates on *Foundations*, ch. 4, "Phenomenology." This approach requires appeal to the empirical determination of various forces of acceleration. Such appeal is officially proscribed by the metaphysical method of the *Foundations*, which only admits one empirical element, the empirical *concept* of "matter as the moveable in space." Likewise, appeal to "Phenomenology" to support *Foundations*, ch. 3, "Mechanics" (or its chapter 1, see previous note) is ruled out by the cumulative procedure of Kant's official metaphysical method. Appeal to the empirical determination of forces of acceleration is of course allowed by the "bottom up" presuppositional reconstruction of classical mechanics Brittan (1978, vii, 7–13) reconstructs from Kant's texts. However, his reconstruction cannot serve to evade the objections made here to Kant's constructivist, "top down" transcendental-*cum*-metaphysical approach to explicating and defending the epistemological preconditions of physical science – and in the present case, commonsense causal judgments.

56 KANT'S PROOF THAT PHYSICAL CAUSALITY IS EXTERNAL

Showing the inadequacy of Kant's proof that all physical causality is external is more difficult. Kant's argument for his Second Law of Mechanics, that every change of matter has an external cause, rests entirely on matter consisting solely of external spatial relations. His proof assumes the transcendental causal thesis (defended in the first *Critique*) that every event has a cause. He then argues as follows:

> Matter as mere object of the external senses has no other determinations than those of external relations in space and hence undergoes no changes except by motion. With regard to such change, insofar as it is an exchange of one motion with another, or of motion with rest, and vice versa, a cause of such change must be found (according to the principle of [general] metaphysics [i.e., the first *Critique*]). But this cause cannot be internal, for matter has no absolutely internal determinations and grounds of determination. Hence all change of a matter is based upon an external cause (i.e., a body remains *etc.*). (*M* 543)

Kant claims that this is the law of inertia, and then remarks:

> The inertia of matter is and signifies nothing but its *lifelessness*, as matter in itself. *Life* means the capacity of a *substance* to determine itself to act from an *internal principle*, of a *finite substance* to determine itself to change, and of a *material substance* to determine itself to motion or rest as change of its state. Now, we know of no other internal principle of a substance to change its state but desire and no other activity whatever but thought, along with what depends upon such desire, namely feeling of pleasure or displeasure, and appetite or will. But these determining grounds and actions do not at all belong to the representations of the external senses and hence also not to the determinations of matter as matter. Therefore all matter as such is lifeless.
>
> (*M* 544.6–16, tr. Ellington; cf. A356–9, 4:225.1–25, .30–226.16)

Kant adds directly that the entirety of physics as a science depends on the lifelessness of matter, and that the opposite view, hylozoism, would be "the death of all natural philosophy" – that is, of physics (*M* 544.25–6). (Note that only transcendental reflection can provide a basis for Kant's crucial premise that psychic "determining grounds . . . do not at all belong to the representations of the external senses.")

Kant's analysis expressly concerns fundamental issues in Newtonian mechanics, in particular, rejecting any active power of inertia, Newton's controversial "*vis insita*" (Brittan 1978, 159–62; 1984). However, Kant's analysis is Janus-faced: implicitly it also concerns fundamental issues and analyses regarding causal judgment not successfully resolved in the *Critique of Pure Reason*. Only these latter are of direct concern here.

Kant's argument is not inconsistent with biology as a science. Organic beings are subject both to physical laws and to further biological laws. Physics focuses only on some characteristics of matter, and hence only on some characteristics of material beings, including those material beings that happen to be organic. Kant explains living beings expressly in dualist terms (*M* 544.7–19). While it is thus an empirical question whether any of the beings we observe consist solely of matter, or if some (or all) are composites of matter plus animate substance, that is irrelevant to the issue of whether the material aspects of these beings are subject to the laws of physics.

However, Kant does not have an adequate argument against hylozoism. The inadequacies in his argument show that the lifelessness of matter is an empirical fact, not a metaphysical necessity. If so, then Kant has no *a priori,* apodictic proof of the externality of physical causation. If so, he has no adequate *a priori* proof of the metaphysical causal thesis. The question cannot be whether the organic beings we experience are immaterial. Kant holds that, by the bare fact that organic beings are observed to be extended occupants of space, the metaphysical concept of matter as "the moveable in space" applies to those beings (*M* 480–2). The applicability of that concept to organic beings provides purchase for Kant's metaphysical arguments (such as they are) to show that, since those beings are material, they must be subject to physical laws, including the law of inertia.[7]

The basic issue can be put two ways. One is to ask, *given* Kant's transcendental and metaphysical principles and arguments, whether spatially extended, merely material bodies invested with living forces could *violate* the laws of physics. Another is to ask whether a physics of "dead" matter is possible *simply* because matter is something extended and moveable in space. That is Kant's contention, but his arguments are unconvincing. I argue that on Kant's grounds it is a distinct logical, metaphysical, and empirical possibility that matter be animate, or that material bodies violate the laws of physics.

[7] Brittan (1984) contends that Kant's Law of Inertia "makes [mathematical] science possible." Kant's law certainly is a necessary presupposition of classical mechanics, but that does not prove it is necessarily true, either on transcendental or on Critical metaphysical grounds. Brittan's (1984, 74–7) strategy for proving Kant's Law of Inertia requires assuming the Second Analogy as a premise. However, I argued above (chapter 4) that Kant's three Principles of the Analogies of Experience form an integrated set. Because the Third Analogy requires but does not prove that all physical causation is external (transeunt), all three Analogies require, though they do not prove, that all physical causation is external. The present issue is Kant's main attempt to prove, as he does in connection with his Law of Inertia, that all physical causality is external. This is the transcendental role Kant's analysis of inertia implicitly but crucially plays – or fails to play.

Consider a counterexample. How could Kant analyze a recalcitrant billiard ball that rolled at random times in unpredictable directions? Suppose we had something close to the theories and equipment available at the apocryphal "end of science" and scientists gave us full assurances that no detectable external forces were influencing that peculiar billiard ball, and that thorough nondestructive analysis of the ball revealed nothing unusual about its internal structure. The "externality" of the ball's spatial relations would not suffice to demonstrate the externality of the causal principles responsible for the ball's unusual behavior. Nothing about the ball's behavior makes it an impossible object of experience; we can see it and we can record its wanderings in exact detail. The ball retains the integrity of its structure in ways that accord with causal explanation, even on Kant's terms. But nothing these ultimate scientists can detect shows that the causes of its behavior are external. The "externality" of the spatial relations involved in the ball's occupying space does not entail – not logically, and not metaphysically, even in Kant's Critical sense – that the ball's behavior can only be governed by external causes.

Kant's first *Critique* requires that real possibility of objects be established by actual perceptions of them (A144–5, 224–5, 581/B184, 272, 609). However, my examples of errant billiard balls describe not simply conceptual possibilities, but also the sensory experiences we could have of such balls' meanderings, hops, epicyclic rolls, and the like. To prove that all physical causation is external as an *a priori* necessary metaphysical truth, Kant needs to show that no such object *can* be experienced by us. Such balls cannot be ruled out as behaving in uncaused ways, for my examples rely on a variety of external or internal causes. Such balls cannot be ruled out as unintuitable because my examples rely on our observing their spatial displacement through time. The mere fact that we do not experience such billiard balls only establishes an empirical, assertoric conclusion, that in fact no such balls are known to exist. It does not show that, necessarily, on Kant's transcendental and metaphysical grounds, no such balls could be experienced by us.

Kant's argument rests on the premise that "[m]atter as mere object of the external senses has no other determinations than those of external relations in space " (*M* 543.25–6). It is one thing to infer that matter has external relations because it is spatially extended; it is quite another to infer that matter consists *only* of external relations because it is spatially extended. Kant's argument requires this stronger conclusion. Is it plausible to suppose that matter necessarily consists only of relations? That is what Kant *says*. Kant treats matter as if it were just "thick space," so to speak; otherwise

it is a *non sequitur* to infer that what occupies space as such can *only* have "external" relations. This inference can only be supported by a very strongly constructivist interpretation of transcendental idealism. One suggestion would be that, on Kant's transcendental idealist account of space, this is a justified inference. This is, in effect, the application to the forms of intuition and the minimal objects of such intuition ("matter as the moveable in space") of Kant's general dictum that we can know *a priori* of things only what we ourselves put into them (B*xviii*, A196/B241, cf. B164–5).

I do not believe that this rejoinder can save Kant's case. First, though it may hold (within transcendental idealism) of the forms of intuition, this dictum can *not* be extended without qualification to the objects intuited in (or through) our two forms of intuition, for this would undermine Kant's *transcendental* idealist thesis that the matter of sensation is given us *ab extra*, and convert Kant into an unqualified subjective idealist. This raises the knotty issue of the extent to which the matter of sensation is reconstituted by our forms of intuition so as to have only external relations. I do not believe Kant says enough about this issue to provide clear grounds to answer this question. Second, even granting Kant's idealism, it remains a piece of brute empirical contingent luck that treating matter in terms solely of external relations provides an adequate basis for a successful physics. The fact that billiard balls can only be governed by external causes, and so are subject to the laws of physics, if and so long as that is a fact, is an empirical fact. Kant's metaphysical analysis may provide grounds for showing how the judgments involved in developing and applying particular causal principles are possible, either in commonsense contexts or within physical theory, but they do not show that those judgments concern the *only* possible features of the objects of our theories. It is a piece of contingent luck that treating matter as dead, extended, massy stuff is an adequate basis for a successful physics. For all Kant has shown, the lifelessness of matter as such is an empirical fact, not a metaphysical necessity.

Another rejoinder might be that Kant is right that it is a metaphysical necessity that matter as such is lifeless, and that all I have shown (if anything) is that it is an empirical question which bodies are material, or which are only material. Kant cannot make this rejoinder. His metaphysical aim is to prove that "matter as such," "matter as the [*i.e.*, any] object of outer sense," "matter as the moveable in space " (these phrases are supposed to be interchangeable) is lifeless. Thus, my weird billiard ball, as an object of outer sense, should consist of matter, and should as such be subject to the (Newtonian) laws of physics – simply because it is extended and so consists of external relations. My example shows, on the contrary, that Kant's inference is a *non sequitur*.

Insofar as my examples (here and below) are taken to show that the errant billiard balls I describe are alive, where life, according to Kant, "is the capacity of a substance to determine itself to change" (*M* 544.7–10), my examples show that billiard balls could be alive even though they consist solely of external spatial relations and lack any psychic states. This highlights the crucial way in which Kant's key premise, that "we know of no other internal principle of a substance to change its state but desire," *etc.* (*M* 544.10–14), concerns empirical ignorance. However, counterexamples of non-Newtonian collisions do not require that billiard balls be alive, only that they respond to collisions in ways that violate Newton's Second Law, say, by spiraling away. In this regard, my examples underscore the crucial way in which Newton's law is based on an empirical, physical postulate concerning inertia, rather than on any metaphysical principle of the sort Kant seeks to justify.

One might rejoin by arguing, with Friedman (1992b), that Kant holds that causal relations involve causal regularities, and hence causal *laws*, so that my weird billiard ball, whose actions are erratic, must be uncaused events, which Kant rules out on general transcendental grounds. However, my weird billiard ball's behavior is not *un*caused; it is in part self-caused upon occasion of external impact. No causal law could cover such cases. (Compare Kant's argument by analogy for ascribing rational agency to a self-moving body; above §13.) However, analyzing causal relations in terms of causal regularities and causal laws, as Friedman does, does not address the issue here, namely, whether Kant provides adequate reasons to show that all spatiotemporal phenomena are governed only by transeunt (external) causality. I submit that Kant's arguments for this conclusion in the *Foundations* are unsound (see also §57). The Law of Inertia does not have the kind of transcendental or metaphysical basis Kant proffers; it is instead an empirical law.

Another suggestion might be that Kant's real argument for the lifelessness of matter is this: matter is infinitely divisible; life as we know it is a function of organic beings, beings that are organized of material components; hence organic beings are not infinitely divisible; consequently, matter as such is lifeless. This is interesting, but will not serve Kant's purposes. First, it rests what is supposed to be a metaphysical thesis (the lifelessness of matter) on an empirical and epistemic premise (life *as we know it* consists of organized material components). Second, the crucial claim about "life as we know it," that "organic beings are organized of material components," neglects Kant's dualist account of life, according to which life involves psychic states that are "absolutely inward" properties of

a living being. If this is true, then the souls (as it were) of living beings have no spatial extension and so cannot be spatially divided. If this is the case, it would again be a merely contingent empirical fact that all the living beings we know of consist in spatially extended, organized material organs. On the basis of this suggestion, Kant could not rule out the possibility of vivisecting some unfamiliar organism by paring off "dead" parts of its body, only to find that the vital core remains alive, no matter how pared down is its embodiment. Curtailing this organism's motility would again raise the issue of our empirical ignorance regarding its vitality.

In his argument Kant claims that

> we know of no other internal principle of a substance to change its state but desire and no other activity whatever but thought, along with what depends upon such desire, namely feeling of pleasure or displeasure, and appetite or will.
>
> (*M* 544.10–14)

This, it may be argued, is a nonempirical claim, or at least a far less empirical claim than the above claim about organically organized matter, since this claim holds equally well of animate monads. However, Kant does not clarify the basis or level of this claim. Kant defines the concept of life as "the capacity of a substance to determine itself to change " (*M* 544.7–10). However, Kant's claim (just quoted) is not a matter of definition. Kant provides no reasons to think that this bit of putative knowledge, that we know of no such principles of life but desire or thought, is a metaphysical (or a transcendental), rather than an empirical truth. I argue further below that within Kant's Critical philosophy it is, at best, an empirical truth. Moreover, empirical propositions such as this are not supposed to have any role in Kant's metaphysical foundations for empirical physics. The only empirical element officially allowed in Kant's metaphysical constructions is the empirical *concept* of matter as "the moveable in space" (*M* 470.1–12, 480.6). Kant's claim is a claim about knowledge, about what we allegedly know, not about what is transcendentally not an object of possible human experience, nor about what is metaphysically the only possible kind of object of human experience.

Perhaps Kant provided the requisite argument for his inference in the *Foundations*, from the spatial extension of matter to matter's lack of self-determination, in his critique of Leibniz in "The Amphiboly of the Concepts of Reflection." There Kant argues that no phenomenal object can have "absolutely inward" determinations, that is psychic characteristics, including the power of self-determination. However, careful examination of Kant's argument in the Amphiboly confirms my main contention, that

Kant's argument against the self-determination of physical objects rests not on any metaphysical impossibility demonstrated by the Critical philosophy but on an argument from ignorance. As noted above (§35.4), following Van Cleve (1988, 238), the crux of Kant's argument against the existence of monads within the phenomenal realm turns on showing that, because phenomenal substances are always extended in space, they can only have comparatively, but not absolutely, inward properties. Kant's argument in the *Foundations*, quoted above, requires the premise that, *necessarily*, phenomenal substances are constituted entirely by (external) relations. Kant's argument in the "Amphiboly" only supports the modally weaker conclusion that, *possibly*, phenomenal substances are constituted entirely by relations. However, Kant's reason for the assertoric premise that phenomenal substances *are* only constituted by relations is merely that "All that we know in matter is merely relations" (A285/B341, 3:229.10–12). I shall argue that this knowledge is neither transcendental nor metaphysical, but merely empirical.[8] The examples I discuss next thus show that Kant's intended *metaphysical* proof of the externality of physical causation is fallacious.

57 THE EMPIRICAL BASIS OF KANT'S REFUTATIONS OF VITALISM AND MONADISM

My initial example is not sufficiently clear-cut. I think the problem lies in Kant's exposition, because he never makes sufficiently clear in his published writings what parts of physics are metaphysical, what parts are rational, and what parts are irreducibly empirical. This unclarity makes it difficult to show that the lifelessness of matter ultimately must be an empirical fact. This difficulty is exacerbated by the fact (examined in chapter 5) that Kant's arguments in the *Foundations*, to show that the minimal metaphysical concept of matter as the moveable in space suffices to show that matter consists in dynamic, transeunt forces and is subject to the laws of gravity and inertia, fail on entirely internal grounds. Nevertheless, with these points in mind I can indicate more precisely the ultimately empirical basis of the lifelessness of matter.

It is significant that Kant's metaphysical rendition of Newton's laws omits Newton's Second Law. Newton's Second Law states that a body's

[8] Van Cleve (1988) does not discuss the question whether the relevant ignorance is transcendental, metaphysical, or empirical.

change of motion is proportional to the motive force impressed upon it, and that this change is made in the direction of the right line in which the force is impressed.[9] The proportionality of the imparted motion to the force imparted is, arguably, covered by Newton's Third Law (the equality of action and reaction), which Kant defends in his Fourth Proposition of Mechanics (*M* 544.31–3). What Kant specifically omits is Newton's claim that the *direction* of the imparted motion is a vector determined by the vector of the impressed force(s). Now, is the *proportionality* of forces and motions metaphysical, while their *directionality* is empirical? That strains credulity. The main point is that nothing in Kant's *Foundations* treats the directionality of motions resulting from either collisions or attractions – not even his mathematical doctrine of the combination of motions, "Phoronomy." ("Phoronomy" treats the combination of two or more motions *of one and the same body*; it does not treat two bodies, and so does not treat either collisions or attractions, and it deliberately abstracts from all considerations of force.)

Recall that Kant's "Phoronomy" is deliberately restricted to motions that can have a physical basis (rectilinear and curvilinear motions), in order to develop a metaphysical analysis that can apply to physical phenomena. Since "Phoronomy" is supposed to be entirely independent of physical forces, Kant further restricts his analysis to rectilinear motions, which can be inertial, that is, they can occur without any forces acting on the moving body (above, §§44, 45). "Phoronomy" provides the geometrical and temporal basis for combining the direction and speed of motions in some, though only some, of the ways required by Newton's parallelogram of forces. Newton's first corollary is that "a body, acted on by two forces simultaneously, will describe the diagonal of a parallelogram in the same time as it would describe the sides by those forces separately." This follows from Newton's Second Axiom or Law of Motion, which is that "The change of motion is proportional to the motive force impressed; and is made in the direction of the right line in which that force is impressed." What this second law adds to Newton's first and third laws is the claim that the direction of the imparted motion is in the right line in which the force is impressed. Kant's "Phoronomy," however, only treats the resulting motion of the affected body; it does not treat its causes, that is, the effects of other bodies on it.

[9] "The change of motion is proportional to the motive force impressed; and is made in the direction of the right line in which that force is impressed" (Newton 1952a, 14).

Kant insists that motion as the description of a space belongs to transcendental philosophy, although the motion of an object in space does not (B155 note, 3:121–2), and he insists that actual causes of motion must be given empirically.[10] However, the "form" of causal changes can be studied *a priori*:

> apart from all question of what the content of the alteration, that is, what the state which is altered, may be, the form of every alteration, the condition under which, as a coming to be of another state, it can alone take place, and so the succession of the states themselves (what happened), can still be considered *a priori* according to the law of causality and the conditions of time.
>
> (A207/B252, 3:178.9–14, tr. Smith)

This passage speaks of "alteration" and of "what happens." These are empirical concepts, because they inherently refer to a plurality of intuitions given in the pure forms of intuition, space and time. Which sorts of "empirical" concepts may be subject to *a priori* metaphysical analysis and which are not?

The metaphysical analysis licenced by the first *Critique* allows us to understand how the concepts of "change" and of "matter as the moveable in space" can be empirical, and yet also metaphysical, and so not empirical the way the concept of "dog" is empirical. The quite abstract, empirical concept of matter which forms the basis of Kant's metaphysical analysis of matter in the *Foundations* is the concept of matter as "the moveable in space." This concept is empirical because it inherently refers to a plurality of intuitions in our pure forms of intuition, space and time. This representation is metaphysical because it can be given simply within the two *a priori* forms of intuition, space and time, and it can be analyzed and further determined *a priori* by recourse to the categories of the understanding, used in accord with the principles defended in the Analogies of Experience. In brief, this is the metaphysical method licenced by the first *Critique* and expounded in the *Foundations*, and it provides good Kantian reasons to distinguish the empirical concepts of "matter" and, *mutatis mutandis*, of "change," "alteration," or "motion," from other, far richer, but nonetheless ordinary empirical concepts like those of "dog" and "cat." The core issues addressed in Kant's first *Critique* involve *impure* synthetic judgments *a priori* (Cramer 1985; above, §35.2). Thus the passage quoted above (A207/B252, 3:178.9–14) does not concern purely *a priori* transcendental

[10] A171–2/B212–13, A206–7/B252; 3:155.9–27, 178.3–9.

considerations, but also *metaphysical*, that is, impure *a priori* considerations. Thus I think it legitimate to apply this passage to the *Foundations*, as well as to the first *Critique*. The common theme is the "*a priori*" level of analysis of certain empirical concepts.

Taken together, Kant's doctrines entail that the externality of physical causal relations, the equality of action and reaction, and the constancy of the direction of inertial motion, all belong to the "form" of change, while the directionality of combined motions of distinct, interacting (impacting or attracting) objects does not. This is bizarre, or at least highly inelegant. Kant's formal considerations in the *Foundations* officially entitle us to relate distinct objects as causes and effects, to know (apart from all empirical evidence) that action and reaction are equal, and to know that inertial motion is rectilinear, though we are not to know *a priori* (either transcendentally or metaphysically) Newton's Second Law or First Corollary, which concern the directions of imparted motions and the parallelogram of forces.[11]

Two options might be explored here. One would be to argue that part of the full description of a motion includes its direction, and use this as a basis for arguing that Kant's proof of the proportionality of cause and effect entails the desired thesis that the "total quantity" of motion is preserved not just as a scalar, but as a vector sum. The other would be to argue that Kant's metaphysical proofs of his three Propositions of Mechanics simply fail, so that he does not provide the *a priori* basis of Newton's first and third laws anyway. I think that this ultimately is the case. However, this leaves open the question of whether there are particular flaws within Kant's proofs of each of his Laws of Mechanics that bear on the issue of the lifelessness of matter. I suspect that the first line of argument would lead, indirectly, to other grounds for criticizing the supposedly *a priori* level of Kant's analysis, because it would make almost the whole of Newtonian physics *a priori*, and would not leave enough to the empirical domain. This first line of argument also confronts the problems with weird billiard balls.

The important point is this. Within Kant's metaphysical analysis in the *Foundations* it remains an unanalyzed empirical fact that motions are imparted in the right line of the imparting force. So far as Kant's metaphysical analysis is concerned, it is an irreducibly empirical fact that the 8 ball heads for the corner pocket when struck by the cue ball at the proper angle, instead of popping straight up into the air, or even leaping over the

[11] Newton's Second Law is quoted above, note 9; his First Corollary is quoted above, p. 215. I stress the directions of these motions, and leave aside their quantitative relations, which Kant insists can only be determined empirically.

cue ball in the direction from which the cue ball came, or rolling in circles (perhaps epicycles) around the cue ball, or even turning into daisies. These violations of the laws of physics are logically, transcendentally, and metaphysically possible, on Kant's analysis. If these violations of the laws of physics are logically, transcendentally, and metaphysically possible on Kant's analysis, then for all Kant has shown, it is logically, transcendentally, and metaphysically possible for a weird billiard ball itself to "determine" (to use Kant's term) which of these violations to exhibit on any given occasion. And if this determination and resultant motion is logically, transcendentally, and metaphysically possible, then it is equally logically, transcendentally, and metaphysically possible for the billiard ball described earlier simply to begin to move, without being struck. (This may seem to raise another problem. In the first *Critique*, Kant contends that every event has a cause. However, I have not denied that the ball's motion is caused; I have only denied that its cause is external, in order to suggest that the spatial extension of the ball does not entail that the cause of its motions must be external. The present issue concerns Kant's proof of the metaphysical, not the transcendental, causal thesis.) Kant's best reason for denying the possibility of such a billiard ball is his contention that matter, as occupying space, can have nothing but external relations, and hence undergoes change only when affected by external causes. Kant has not given us adequate reasons to accept this inference.

This conclusion can be reinforced. My weird billiard ball example is a case of internally caused motion, indicating (in *sensu stricto*) an animate substance. Kant identifies free rational agents by arguing from analogy. The Critical philosophy justifies the general principles needed for this analogical inference, so when we observe primate or humanoid behavior that can only be explained by intentional purposiveness, we are entitled to ascribe sensibility, understanding, and reason to that agent.[12] Kant's argument by analogy is instructive in this connection. Empirical facts about the behavior of a (human-looking) body, specifically facts about its behavior that cannot be explained by physical laws, justify our ascribing agency to that body. If this is so, then the analogy should also hold in cases of bodies that do not look human, like billiard balls. If any body behaves in ways that cannot be explained by physics, then we must take recourse to nonphysical explanations (or, at least, interpretations).[13] This should be all

[12] *KdU* 5:484.7–19; see above, §13 end.

[13] Kant's "explanations" of human behavior, not only in the third *Critique*, but already in the Resolution to the Third Antinomy, are regulative and heuristic, not causal explanations (see §§13, 61.3).

the more so if the behavior of some body *violates* the laws of (Newtonian) physics. That is what my weird billiard ball does. Nothing in the facts of its being spatially extended, or of its consisting of external relations, logically, transcendentally, or metaphysically rules out the possibility of its behaving in the ways I described. If those behaviors are empirically possible, then it is an empirical fact (if indeed it is a fact), not a metaphysical necessity, that matter is dead.

The problem with Kant's argument is that he attempts to extract Newtonian conclusions about inertness and inertia from essentially Cartesian (geometrical -*cum*- phoronomic) premises about matter as something essentially extended and moveable in space. Kant's transcendental idealist account of space as nothing but a form of outer human intuition ineluctably leads Kant to analyze matter in terms of its extension and mobility; these are the only basic data allowed by his metaphysical method.

Newton's First Law of Motion (the Law of Inertia) rests on his definition (Definition 3) of "the innate force of matter":

> The *vis insita*, or innate force of matter, is a power of resisting, by which every body, as much as in it lies, continues in its present state, whether it be of rest, or of moving uniformly forwards in a right line. (Newton 1952a, 5)

Newton's definition of the innate force of matter derives, in turn, from his conception of mass or the inert nature of matter:

> This [*vis insita*, or innate] force [of matter] is always proportional to the body whose force it is and differs nothing from the inactivity of the mass, but in our manner of conceiving it. A body, from the inert nature of matter, is not without difficulty put out of its state of rest or motion. Upon which account, this *vis insita* may, by a most significant name, be called inertia or force of inactivity. (Newton 1952a, 5)[14]

Newton's conception of inert mass, and his attendant definition of inertial force, are, I submit, physical postulates, not metaphysically necessary truths – certainly not in any sense or for any transcendental or metaphysical reasons provided by Kant. Kant's appeal to the externality of spatial, and hence material, relations is too general to specify any force at all, much less the particular one Newton postulates. Just as it is an empirical fact that defining "same direction of motion" as rectilinear motion is a sound basis for an

[14] Kant aims to prove the Law of Inertia without any appeal to Newton's *vis insita*, and thus to defend Newton's explication of "*vis insita*" as "the inactivity of the mass" while dispensing with the very different (and historically very confusing) conception of *vis insita* as "force of inactivity."

effective physical theory, so it is an empirical fact that defining matter in terms of inert mass is a sound basis for an effective physical theory.

The failure of Kant's proof of his Second Law, the Law of Inertia, marks another systematic failure of Kant's metaphysical method (cf. above §52). On his own terms, Kant failed to substantiate his claim, in the B preface (B49, 3:59.14–16), that his transcendental idealist account of time explains the possibility of the synthetic *a priori* cognitions involved in Newton's universal theory of motion. More significantly, he failed to substantiate that claim because he failed to substantiate his crucial premise that matter as such is necessarily lifeless. This failure is not only a problem for Kant's *Foundations*, it is a crucial problem for Kant's Analogies. This is because justifying *a priori* the objective validity of causal judgments requires showing that only if we can make correct causal judgments about commonsense objects and events can we identify those objects and distinguish them from ourselves, and only if we can do that can we be self-conscious (see §65). Making causal judgments requires identifying some presently observed state of affairs *X*1 as the result of some prior state(s) of affairs. Some of those prior states of affairs may not be observable to us, due to our senses (*e.g.*, magnetism; A225–6/B273–4), inattention, or because some of them are internal to *X*1. However, such unobserved prior states of affairs must themselves result from some prior observable states of affairs, or else we cannot make determinate causal judgments about *X*1, and so could not identify its time relations, and so on. So far as internal states of *X*1 are concerned, they may and must only be "comparatively inner" (above, §35.4); they must have observable causal antecedents. Kant's failure to prove that matter as such (necessarily) is lifeless marks the failure of his transcendental-*cum*-metaphysical argument that this necessary condition for causal judgments about commonsense objects and events is and must be fulfilled in any world in which we can be self-conscious. Earlier I argued that the Analogies of Experience form an integrated set, and that they require the metaphysical principle that all physical causation is external (§§2.5, 36–8). Here I have shown that Kant cannot justify this crucial metaphysical principle, neither on the basis of his transcendental analysis in the first *Critique*, nor on the basis of his metaphysical analysis in the *Foundations*, nor on the basis of their combination.[15]

[15] Kant's analysis and defense of the *a priori* principles of physics fares much better if Kant's project is interpreted as investigating how, not whether, scientific knowledge is possible (e.g., Buchdahl 1969; Brittan 1978; cf. B*x*, 20 and note). This project, however, differs from and is much less ambitious than the purely transcendental inquiry regarding the very possibility of human knowledge pursued here, and in the first *Critique* in those of its aspects concerning perceptual skepticism.

The importance of the ontological principle that matter as such is lifeless for Kant's transcendental proof of the objective validity of causal judgments underscores, once again, the fact that Kant's transcendental analysis of the *a priori* conditions of possible human experience can prove that certain ontological conditions must be fulfilled by the objects we experience, even though the fulfillment of those conditions cannot be generated or otherwise insured by the structure or functioning of human minds. This implication provides an important rationale for a certain kind of realism, the thesis that some logically, transcendentally, and metaphysically contingent facts about the world play a basic role in any plausible account of human empirical knowledge. These suggestions are developed in chapter 7.

58 SYSTEMATIC SHORTCOMINGS OF TRANSCENDENTAL IDEALISM

The systematic failures of Kant's transcendental and metaphysical analyses of causal judgment redound upon his transcendental idealism. Both the aims and the method of Kant's *Foundations* are embedded in his transcendental idealism. Like the first *Critique*, the *Foundations* aims to provide *a priori* knowledge, in this case, *a priori* metaphysical knowledge of the basic constitution and characteristics of matter, including basic laws of mechanics (*M* 468.30–469.8). The *Foundations* shows no indication of revoking, and every indication of extending (cf. B*xvii–xix*) Kant's key idealist thesis, that "we can know *a priori* of things only that which we ourselves lay in them" (B*xviii*).[16] The first *Critique* explains how scientific metaphysics is possible (B22), in part by providing a complete outline of the metaphysical system Kant anticipated (B*xxiii–xxiv*, *M* 473–7), comprising the *Foundations* and the *Metaphysics of Ethics* (A*xxi*, B*xliii*, A841/B869). After publishing the *Foundations*, Kant claimed (B48–9) that only his account of time as an *a priori* form of intuition makes possible the general *a priori* doctrine of motion contained in the *Foundations* (*M* 477). The completeness of any *a priori* system of principles (whether in transcendental philosophy or in metaphysics) is guaranteed, Kant holds, only by transcendental idealism, according to which we construct the structure of the objects or events we experience on the basis of and in accord with the fundamental principles rooted in our forms of judgment (B*xvii–xix*, B*xxii–xxiv*, cf. §24 above).

[16] Kant claims that this "hypothesis" announced in his preface will be proved "apodictically" in the *Critique* (B*xxii* note, B*xviii* note); cf. B*xi–xii*, B151–2, B162 n, B164–5, R 6342, Ak 18:667.

Kant's *Foundations* aims to provide us with knowledge of the very nature of things (*M* 473–7), by identifying the "inner possibility" of matter (*M* 511.14–15), or the "inner principle" of everything that belongs to the existence of matter (*M* 467.2–7 and note; cf. 468.34–7). Significantly, Kant retains this traditional metaphysical aspiration of gaining insight into the alleged "inner possibility" of something. His guide, of course, is the Table of Categories, an exhaustive list of the rational elements of knowledge, including knowledge by rational construction of concepts (*M* 517.36–518.1). Only Kant's constructivist transcendental idealism can link conceptual analysis or *a priori* construction of concepts within our forms of intuition to "the inner nature" or to "the very possibility" of *things* (*Dinge*) (above, §43). Only transcendental idealism could support Kant's claim that only two kinds of motion (approaching and receding within our *a priori* forms of intuition) entail that there are "only two conceivable" fundamental forces, attraction and repulsion.[17] Likewise, only constructivist transcendental idealism could suggest any justifying inference between what properties of matter we can "know" and what properties matter can *have* in Kant's argument against hylozoism (above, §§35.4, 35.5, 38.5).

Note, third, that Kant's model for proper metaphysical science remained Wolff's "dogmatic" method of logical deduction from first principles (B*xxxv–xxxvii*). This model aspires to nothing but apodictic (*i.e.*, demonstrative) proofs.[18] Thus Kant's ideal of metaphysical knowledge is infallibilist. On the basis of Kant's working notes, Guyer contends that Kant developed transcendental idealism in order to provide apodictic proofs within the first *Critique*, to show that the transcendental principles Kant identifies must be satisfied, because their satisfaction is generated by the structure and functioning of our cognitive capacities.[19] Considerations advanced here support Guyer's contention, for Kant insists that the only way we can know anything about objects *a priori*, the only way he can conceive of any correspondence between given objects and our *a priori* principles, is if objects must conform to our concepts and principles, because objects can only be given to us through our *a priori* forms of intuition, which *are* space and time themselves (B*xvi–xxi*). This is the central claim of transcendental idealism.

[17] *M* 498.26–499.4, cf. 511.19–26; above §§43, 48.
[18] On the systematic and apodictic character of Kant's view of scientific knowledge, see Falkenburg (2000, 264–76, 297–305, 363–6, 377–85).
[19] *Claims* 53–61, 132, 362–9, 379–83.

However, the critical analysis presented in chapters 4 through 6 has repeatedly shown that Kant cannot justify any of these conclusions, not even on the basis of his transcendental idealism. *A forteriori*, Kant failed to prove any of these conclusions "apodictically." I submit that no one could make better use than Kant did of his transcendental and metaphysical resources; the problems lie in Kant's metaphysical aims and methods, not simply on corrigible details of his metaphysical analyses.[20] One key conclusion not justified by Kant's *Foundations* is the metaphysical causal thesis, that every physical event has an external cause. This key principle, required by the Analogies and for a sound transcendental deduction of the concept of "cause," remains unproven within Kant's Critical corpus.[21] In this regard, Kant was mistaken in claiming that "only a transcendental idealist" can defend empirical realism (A369–70). In chapter 7, I argue that only an unqualified realist can defend realism transcendentally. This refutes Kant's twin claim, that any unqualified ("transcendental") realism must inevitably involve total empirical skepticism (A369–70). Kant's transcendental idealism can do neither the systematic nor the metaphysical tasks he assigned it. Before turning to my final, constructive chapter, it is worth noting that Kant himself recognized that the problems with his Critical system of transcendental idealism are every bit as severe as I have argued.

59 KANT'S RESPONSE TO THESE CRITICAL PROBLEMS

Kant's constructive metaphysical method, explicating the minimal empirical concept of matter as the moveable in space in accordance with the four moments of the Table of Categories and the two forms of intuition, is precisely what is required by any effort to use the doctrines of the first *Critique* to analyze and legitimate natural science while maintaining a philosophical claim to *a priori* analysis (cf. Falkenburg 2000, especially 288–97). The failure of this constructive method (§58) requires serious reconsideration of the relevance of Kant's Critical philosophy to natural science, and fundamentally revising transcendental idealism. Hence it is no surprise that Kant only made one crucial step after several years of reflection. Presumably Kant saw the critical review of the *Foundations* in 1787.

[20] The problems for Kant's idealism become even more severe when Kant realizes that he must analyze space, not simply "formally," but also "materially," in order to analyze matter dynamically; see Edwards (2000).

[21] Insufficient justification of causal judgments raises, as a corollary, the systematic "gap" explored by Förster (2000, 48–74) of how the *Critique* bears on physical science, though the gap in Kant's analysis identified here is a much more fundamental problem.

He discovered the circularity in his definition of the quantity of matter around January 1792. Not until the third quarter of 1798 did Kant take the decisive step that resolves both the question-begging proof of the first Proposition of Dynamics and the circularity in his definition of the quantity of matter. Kant finally recognized that dynamical principles and the concepts of force they employ simply cannot be "constructed."[22] Concomitant with this, Kant recognized that the *Foundations* amounted only to Phoronomy.[23] Kant now demotes mathematics from a model to be imitated in metaphysics to a mere auxiliary aid.[24] This demotion, and its concomitant rejection of the metaphysical method of the *Foundations*, opens another "gap" in Kant's Critical philosophy. Kant must now find an entirely new way to relate the system of categories of the first *Critique* to physics. To fill this gap is the main (though revised) aim of Kant's "Transition" project, especially the version set out in the nearly complete manuscript known as "*Übergang* 1–14."[25]

Förster points out that Kant recognized that he must address a further problem. As noted above, in the *Foundations* Kant regarded cohesion as a secondary concern. However, he realized in the late 1780s or early 1790s that cohesion is necessary for the existence of bodies, certainly for the existence of the macroscale bodies studied by contemporaneous physical mechanics. Because the *Foundations* provided no account of cohesion, it provided only an analysis of "matter in general," and not the "doctrine of body" it had claimed and intended. Hence Kant needed to develop a more thorough analysis of matter in order to provide a metaphysical foundation for physics.[26]

There is no place for Kant's proposed "Transition from the Metaphysical Foundations of Natural Science to Physics" within the framework of the classical Critical corpus of the three *Critiques* plus the *Prolegomena* and *Foundations*.[27] Hence the very fact that Kant even contemplates a "Transition" indicates that he thinks something is seriously wrong with the Critical philosophy. Three central problems are these. First, the *Foundations* failed as a test case for applying the systematic organizing

[22] Ak 21:286–7; August–September 1798.
[23] 21:164.8–11, 166.29–167.10. Adickes dates these from September/October 1798; Tuschling (1971, ch. 5) from the second-third of 1798.
[24] Ak 21:482; Förster (1987), 549.
[25] Ak 21:206–47, 535–612, 512–20, 22:609–15 (May–August 1799); Förster (1987, 549f.; 2000, 1–74).
[26] See Förster's introduction to Kant (1993, *xxxviii*).
[27] Tuschling (1991, 105–9); cf. Edwards (2004). The *Groundwork* and *Metaphysics of Ethics* also belong to this corpus, but are not presently germane.

principles of the first *Critique* to natural science (above, §31.1). Second, the principle Kant actually needs in the Analogies of Experience is not the general causal principle that every event has a cause, but the specifically metaphysical principle that every physical event has an external cause. Kant only formulates this distinction, and he only defends this specific metaphysical principle, in the *Foundations*. The utter failure of the *Foundations* to justify forces, and the consequent reduction of the *Foundations* to Phoronomy, entails that Kant's Critical system has no adequate justification of any of these three crucial doctrines. Third, justifying the Law of Inertia is decisive to Kant's showing that physical events only have external physical causes. However, Kant's argument for this conclusion is insufficient. This related failure reveals that Kant's transcendental idealism cannot justify even commonsense causal judgments about physical events, because it cannot justify the crucial premise, that all physical events have external material causes (above, §§38.3–5). Taken together, these mark very serious shortcomings of Kant's claims for his transcendental idealism. Thus it is not surprising that the "transcendental idealism" of the first *Critique* and Kant's arguments for it play an ever diminishing role in the *opus postumum*. Kant's shift towards realism is further supported by the fact that the tenable portions of Kant's views on the systematic principles of science are independent of his idealism.[28]

Kant came to see that the mathematical expression of forces presupposes those forces as fundamental, because those forces are necessary for the means of measurement through which alone their mathematical relations can be determined. Quantities of force and matter can only be determined by measurement. Yet the very existence and functioning of instruments of measure, such as balance scales, presuppose dynamic forces, such as cohesion, in order that those instruments (and their parts) have a form and function at all.[29] Forces are basic. This led Kant to develop a transcendental argument for realism – for the reality of forces and their fields. The existence of a continuous dynamic field of physical forces is conditionally necessary for the possibility of self-conscious experience, but its reality is no longer merely "empirical reality." This is Kant's new "transcendental dynamics."[30] Its implications for the analysis of ourselves as knowing subjects stem from thinking through the implications of Kant's basis for regarding moving force as the fundamental property of matter. His reason

[28] See Buchdahl (1980, 1986); Brittan (1978), Kitcher (1986), and Okruhlick (1986, especially 318).
[29] 21:294.11–26, 22:259.6–8, Loses Blatt Leipzig 1 (in Blasche et al. 1991, 152); see Förster (1991, 35–6).
[30] See Tuschling (1971), Edwards (1991, 2000).

for this is that only by its moving force can matter affect our sensory organs.[31] If this is so, then our sensory organs must themselves be (at least in part) material causes. Förster (1989c; 2000, 75–116) has shown that along with Kant's transcendental dynamics comes (*circa* August 1799–April 1800) a new doctrine of "self-positing," according to which we can only identify perceptible objects in space if we first identify ourselves as physiological beings who are centers of active force. We perceive ourselves and objects through our dynamic interaction.[32]

For those accustomed only to the "classical Criticism" of the three *Critiques*, these are very surprising, and surprisingly realistic, doctrines. However, it is not germane to explore them further here.[33] My aim has been to show that these quite surprising doctrines respond to genuine problems infecting Kant's Critical epistemology and transcendental idealism. The dramatic turn Kant's thought takes in 1798 stems directly from problems he first saw in 1787 and 1792. Kant did not forget what he has previously written and argued. On the contrary, Kant understood the problems facing his Critical epistemology better than most of his expositors and advocates. Though incomplete, his efforts to confront and resolve those problems in the *opus postumum* (Kant 1999) deserve far more, and more careful, attention than they have so far received.

In the next and final chapter, I argue that the metaphysical causal thesis can be justified *a priori* by transcendental proof, by jettisoning Kant's transcendental idealism, stressing Kant's semantics of cognitive reference, his various strands of externalism, and intensifying our epistemic and transcendental reflection on these issues and our cognitive resources for resolving them. Despite the empirical contingency of the Law of Inertia, I shall argue that it also has a genuinely transcendental status, because proper transcendental analysis reveals that the Law of Inertia must be generally instantiated in any world in which we human beings can be self-conscious. This comports with and extends the realist implications of Kant's analyses identified in previous chapters. Developing this line of reasoning requires emphasizing and augmenting the justificatory fallibilism inherent in transcendental reflection. This is aided by jettisoning Kant's infallibilist ideal of "scientific" knowledge, which obscures the genuine insights of Kant's fallibilist new way of thinking, transcendental reflection. In these regards,

[31] *MAdN* 4:476.9–12; discussed above, p. 177.
[32] Also see Hübner (1953).
[33] For further discussion also see Edwards (2000), Förster (2000), Guyer (1991), and Carrier (1990); an excellent bibliography on Kant's *opus postumum* appears in Blasche *et al.* (1991).

I contend that Kant's Critical system has richer philosophical resources than Kant himself realized. Genuinely transcendental analysis and proof need not be limited to the *pure a priori* concepts and principles Kant claimed, though failed to maintain, even within the first *Critique*. With careful transcendental analysis, some principles formulated with empirical concepts suffice to generate genuinely transcendental knowledge.

CHAPTER 7

Three Kantian insights

60 INTRODUCTION

This study has pursued Kant's transcendental analysis of the *a priori* conditions of self-conscious human experience in great detail, not to find fault but to learn and build upon Kant's genuine insights and achievements. Chapter 1 hailed the merits of Kant's "changed method of thinking," which centrally involves transcendental, or more broadly, epistemic reflection; its central role was noted repeatedly (§§8, 9, 22.2, 23.1, 23.5, 36.3, 56). The invalidity of Kant's arguments for transcendental idealism was demonstrated on the basis of Kant's *sound* transcendental proof of the conditional necessity that any world in which human beings can be self-conscious is a world that presents us with a minimum necessary degree of identifiable regularity and variety among the contents of our sensations, of appearances to us, or of what we experience. (The same point holds at each of these levels.) In this important regard, the resources of Kant's transcendental method of analysis and proof significantly surpass those of his transcendental idealism. The constructive aim of this chapter is to show that this kind of conditional necessity and the transcendental analyses used to support it have powerful, philosophically very significant implications regarding rational agency, the justification of causal judgments, and perceptual skepticism. Thus this chapter aims to integrate, reinforce, and develop the findings of the previous chapters.

The first step (§61) is to reinforce the importance of the integrity of Kant's three Analogies of Experience (§§2.5, 36) by showing that the Analogies together with Kant's Paralogisms provide an unexpected defense of practical freedom, of freedom of agency within the phenomenal, spatiotemporal realm. They do so by showing that we can only make legitimate causal judgments regarding spatiotemporal objects and events. The second step (§62) is to show that epistemic reflection, in connection with Kant's semantics of cognitive reference and the integrity of the

Analogies of Experience, suffice to resolve the problems that bedevil Kant's transcendental idealist attempt to prove that every physical event has an external physical cause (§§30–58). The third step (§63) reinforces Kant's semantics of cognitive reference (§8) by explicating and defending Kant's transcendental refutation of global perceptual skepticism. Each of these findings reinforces and augments the externalist and realist aspects of Kant's views highlighted previously. Together, these aspects show that Kant's methods and strategy of transcendental analysis and proof do not require transcendental idealism. Instead, they are philosophically more resourceful than transcendental idealism, and suffice to show that logically contingent features of the world we inhabit can satisfy genuinely transcendental conditions for the possibility of integrated self-conscious human experience.[1]

61 KANT'S CRITIQUE OF DETERMINISM IN EMPIRICAL PSYCHOLOGY

There appears to be a deep tension in Kant's view between thoroughgoing determinism in the phenomenal – including psychological – realm and his theory of free deliberation and decision to act.[2] Free action involves choosing to adopt ends and motives; Allison (1990, 40, 51, 126) calls this the "Incorporation Thesis." Because this choice is a free act, thoroughgoing psychological determinism must be rescinded.[3] This is why Kant distinguishes between a sensuously determined will (*arbitrium brutum*), which animals have, and a sensuously affected will (*arbitrium sensitivum liberum*),

[1] Transcendental idealism has been faulted because it cannot achieve some of its key intended aims (§58); because its main supporting arguments are invalid, as shown by key principles of the Transcendental Analytic; because any possible supporting grounds for it must be completely different than those Kant offers, and are far from obvious; and because it is refuted by Kant's transcendental proof of the transcendental affinity of the sensory manifold (§27). In this chapter I add that transcendental idealism is not required to achieve some of Kant's most important philosophical aims.

[2] Kant expresses psychological determinism in the resolution of the Third Antinomy (A549–50/B577–8) and in the second *Critique*, where he states that psychological phenomena, though they do not have physical causes, do belong to the "mechanism of nature," which requires that any psychological event "has its determining ground in antecedent time," and so psychological events must "fall under the scope of the Second Analogy" (Allison 1990, 34). I argue that psychological events as such do not, on Kant's view, fall under the scope of the Analogies.

[3] Allison (1990, 39) notes that in the resolution of the Third Antinomy, Kant speaks of the cause of a free act as "not . . . so determining that it excludes a causality of our will" (A534/B562, 3:364.11–14). This sounds like semideterministic double-talk; I argue that ultimately this is not a theoretical waffle, but a Critically permissible idiom. My disagreements with Allison's treatment of these issues are discussed in Westphal (1995b, notes 7–9, 36; 2001, §§2, 3).

which humans have; this is Kant's "practical freedom" (Allison 1990, 5–6, 54–70, 189).

61.1 *Arbitrium brutum or arbitrium sensitivum liberum?*

What entitles us to regard the human will as an *arbitrium sensitivum liberum*? Kant holds that whenever we deliberate, we must regard psychological antecedents as nonsufficient determinants of our deliberation and action, because we can only deliberate by presupposing our freedom from psychological determinism. However, this alone cannot resolve the conflict between theoretical and practical reason: if in fact we are psychologically determined, thinking otherwise of ourselves does not make it so, and does not make it possibly so. Allison is right that Kant must rescind strict psychological determinism.[4] However, Kant cannot do this solely on *practical* grounds just to accommodate his theory of will. On the contrary, Kant must find theoretical grounds to deny psychological determinism, or else be saddled with the conclusion that the noumenal point of view on human action is a chimera because it conflicts with theoretical philosophy (cf. *Grundlegung* 4:445).

In the second *Critique*, Kant insists that practical reason is entitled to an extension over theoretical reason only in the case of problematic concepts: concepts that can be neither affirmed nor denied on theoretical grounds (*KdpV* 5:54–6, 134–5). If Kant justifies psychological determinism on theoretical grounds, then that is not a problematic concept, and practical reason is not entitled to contradict theoretical reason on that topic. Whether we theorize or deliberate about action, one key issue is the status and occurrence of an agent's psychological states, including motives. Those motives are "phenomenal," and as phenomenal, deterministic descriptions (supposedly) hold of them. Kant needs Critically justified theoretical reasons to deny this in order legitimately to ascribe to the human will, on practical grounds, an *arbitrium sensitivum liberum* instead of *arbitrium brutum*.

61.2 *Kant's critical grounds for denying knowledge of psychological determinism*

Fortunately, Kant has excellent theoretical grounds for denying that we can know or prove that psychological determinism is true. This is the joint implication of Kant's Analogies and Paralogisms. Kant contends that

[4] Compatibilist interpretations of Kant's views on freedom have flourished recently; I doubt their adequacy (Westphal 1995b, note 6).

causality is strictly related to substance.[5] The principles of the three Analogies of Experience form a mutually integrated set; we cannot use any one of them without using the others. Kant further argues in the Paralogisms against our knowledge of a substantial self, and he argues against the scientific credentials of psychology, based on the fact that in psychology we have no evidence of extended material substance.[6] If we have no evidence of a substantial self, then we cannot know whether any of the Principles of the Analogies hold of the self. Thus we cannot justify any determinate causal judgments in psychology. Hence determinism is in principle insupportable, unjustified, in the psychological realm. Consequently, for good Critical reasons we must be theoretically agnostic about psychological determinism.

Kant's "denial" of psychological determinism is that we cannot know whether it is true or false. Kant need not show, and does not aim to show, that psychological determinism is false. Consequently, we are permitted by theoretical reason to think of human practical reason in terms of the "nonsufficient determination" required by the "Incorporation Thesis." "Nonsufficient determination" of the human will may thus be a legitimate article of practical faith; it is not an objectionable theoretical waffle on Kant's part.

The Analogies and their interrelation were analyzed in detail above (§§2.5, 36). Here I focus on Kant's Paralogisms, to show that their proscription of causal judgments extends beyond rational psychology to empirical psychology; Kant intends the conclusions of the Paralogisms to be much wider ranging than is generally recognized. Kant himself held it to be one of the cardinal achievements of the Critical philosophy, forever to foreclose on both materialist and "spiritualist" – as well as Humean – causal explanations of the mind.[7] Malebranche's occasionalism, Leibniz's monadology, and perhaps Berkeley's idealism would be examples of such "spiritualist" explanations. Those are the only kinds of causal explanation countenanced in the Modern period. To foreclose on such explanations in psychology *is*, for any Modern philosopher, including Kant, to foreclose on the scientific status of psychology.

In the preface to the *Foundations*, Kant argues on apparently methodological grounds that psychology can at best be a natural description, but not a proper science, nor even a systematic art (such as he thought chemistry

[5] B183, A182–4/B225–7, A204/B249; 3:137.30–138.4, 163.1–32, 176.19–20.
[6] *KdrV* A381, B291, B293–4. These passages are discussed below, and quoted in subsequent notes.
[7] *KdrV* A383, 4:240.1–3; B419–21, 3:274.9–275.4; cf. *KdU* §89, 5:460.20–32.

was).[8] In fact, the most fundamental part of Kant's argument in the *Foundations* against the scientific status of psychology rests squarely on a very strong argument Kant makes in the first *Critique*. This argument is the joint implication of Kant's arguments in the Paralogisms and the Analogies of Experience. Kant states this conclusion in his final Observation on the first edition Paralogisms: only change of determinations, but no determinable object, is knowable within the form of inner intuition, time.[9]

Why is this the joint conclusion of the Paralogisms and the Analogies? The first clue is Kant's contention that inner sense reveals no "abiding object" or anything analogous to the "extended impenetrable being" found in outer sense. Such an object is a substance, and identifying substances is necessary for using *any* of the principles of causal judgment defended in the Analogies. The three Analogies form a tightly integrated set of mutually supporting principles (§§2.5, 36.3). The implications of this for empirical psychology are direct: if we cannot identify substances within inner sense, that is, among psychological phenomena, then we cannot make any causal judgments about those phenomena. One primary conclusion of the Paralogisms (in both editions) is that we cannot identify substances among psychological phenomena.

The main target of the Paralogisms, to be sure, is traditional rationalist psychology. However, even in defining rationalist psychology, Kant notes

[8] *MAdN* 4:471. Robert Paul Wolff (1973, 18–19) notes Kant's ambivalence about the status of psychology, and contends that Kant's deepest reason for denying the scientific standing of psychology is that "there can be no mathematical foundation for psychology and so no true science of psychology." Similarly, Allison (1990, 31–2) recognizes Kant's denial of psychological laws in the preface to the *MAdN*. Kant's critique of psychological science is much more radical than they realize.

[9] "If we compare the *doctrine of the soul* as the physiology of inner sense, with the *doctrine of the body* as a physiology of the object of the outer senses, we find that, although in both much can be learnt empirically, there is yet this remarkable difference. In the latter science much that is *a priori* can be synthetically known from the mere concept of an extended impenetrable being, but in the former nothing whatsoever that is *a priori* can be known synthetically from the concept of a thinking being. The cause is this. Although both are appearances, the appearance to the outer sense has something constant or abiding which supplies a substratum as the basis of its transitory determinations and thus supplies a synthetic concept, namely, that of space and of an appearance in space; whereas **time, which is the sole form of our inner intuition**, has nothing abiding, and therefore enables us to know only the change of determinations, but not to know any determinable object" (A381, 4:238.35–239.13, bold added; cf. A349–50, A361, A366, A398–9, A402–3; 4:221.1–15, 227.21–8, 230.18–28, 248.28–249.11, 251.12–20). Although this passage was omitted from the B edition, Kant added another to the same effect: "in order to understand the possibility of things in conformity with the categories, and so to demonstrate the *objective reality* of the latter, we need, not merely intuitions, but intuitions that are in all cases *outer intuitions*" (B291, 3:200.6–9; cf. B420, 3:274.15–24).

how easily it can slide into empirical psychology,[10] and he clearly indicates the empirical aspect of his criticism: the concept of a simple nature cannot be a predicate in an objectively valid experiential judgment (A361, 4:227.21–8). Kant quickly elaborates the empirical aspect of his criticism by criticizing *any empirical use* of the category of substance in application to the self: the only empirically serviceable concept of substance is the permanence of an object given in experience, but no such permanence can be demonstrated in the case of the "I."[11] Kant's argument goes far beyond refuting traditional rationalist doctrines of the soul. His argument aims to show that there can be no synthetic *a priori* principles about the soul *at all, of any kind*. Thus there can be no immanent rational doctrine (no "critical metaphysics," if one will) of the soul, and no empirical *science* of the soul, either. What remains is only to chronicle the content of inner experience (A382, 4:239.29–32). Kant speaks explicitly of the *content* provided by possible inner experience. That is pointedly *not* an issue of the form, principles, or conditions of possible inner experience, but only an issue of empirical data or *evidence* provided by introspection. Any rational doctrine of the soul purports to make synthetic judgments *a priori*. Such judgments require intuitions as a judgmental connecting link, but there are no suitable intuitions to be found in inner experience.[12] In particular, unlike the case of a metaphysics of corporeal nature, there is no intuition of anything permanent or abiding in inner sense.[13] Consequently, rational

[10] "The *rational* doctrine of the soul really is an undertaking of this kind; for if in this science the least empirical element of my thought, or any special perception of my inner state, were intermingled with the grounds of knowledge, it would no longer be a rational but an *empirical* doctrine of the soul" (A342/B400, 3:263.16–20; cf. A347/B405–6, 3:266.16–25).

[11] "But what use shall I make of this concept of a substance? That I, as a thinking being, *persist* for myself, and do not in any natural manner *either arise or perish*, can by no means be deduced from it. Yet there is no other use to which I can put the concept of the substantiality of my thinking subject, and apart from such use I could very well dispense with it.

"So far from being able to deduce these properties merely from the pure category of substance, **we must, on the contrary, take our start from the permanence of an object given in experience as permanent. For only to such an object can the concept of substance be applied in a manner that is empirically serviceable**. Now in the above proposition, however, we have not taken as our basis any experience; the inference is merely from the concept of the relation which all thought has to the 'I' as the common subject in which it inheres. **Nor should we, in resting it upon experience, be able, by any sure observation, to demonstrate such permanence**. The 'I' is indeed in all thoughts, but there is not in this representation the least trace of intuition which distinguishes it from other objects of intuition. Thus one can indeed perceive that this representation is invariably present in all thought, but not that it is a constant and abiding intuition, wherein the thoughts (as transitory) change" (A349–50, 4:220.28–221.15; bold added).

[12] A398–9, A356, 4:248.28–249.11, 224.24–36; B421–2, 3:275.13–20.

[13] A366, 4:230.18–28; cf. A349–50, 4:221.1–15; A361, 4:227.21–8; A381, A398–9; A402–3, 4:251.12–20; B420, 3:274.15–24.

psychology exists, not as a doctrine, but only as a discipline setting limits to our cognitive aspirations, where those limits preclude both "materialism" and "spiritualism."[14]

Kant's Critical opposition to both materialist and to "spiritualist" explanations of the mind is nothing less than opposition to causal explanations in psychology. It is important not to overlook the sweep of Kant's view. He does not simply deny that we can determine which specific psychological states cause which others. Kant argues repeatedly in the Paralogisms that we cannot identify (phenomenal) *psychological* substances. Kant remarks in the Second Analogy that

> Causality leads to the concept of action, this in turn to the concept of force, and thereby to the concept of substance. (A204/B249, 3:176.19–20)

This inferential link also holds *modus tollens*. If we cannot identify psychological substances, then we cannot validly judge psychological phenomena in substantial terms. Consequently, we cannot validly judge psychological phenomena in causal terms, either. Kant's principles are formulated at the broad categorial level of the validity of making certain kinds of judgments as such. Thus his principles preclude the knowability of psychological determinism. The more restricted thesis follows as a corollary, namely, we also cannot determine which specific psychological antecedents have which specific, allegedly causal, psychological consequences. Kant recognizes two basic kinds of knowledge, historical knowledge based on empirical data, and rational knowledge based on principles.[15] Cast in these terms, Kant's view is that psychological knowledge can only be historical, not systematic, and so not scientific. It cannot be scientific, because it is neither explanatory nor causal.[16]

[14] B421, 3:274.36–275.4; cf. B420, 3:274.24–6; *KdU* §89, 5:460.20–32.

[15] A835–6/B863–4, 3:540.30–3; *MAdN* 4:467.18–68.16.

[16] Robert Paul Wolff objects that my interpretation of Kant's psychology is inconsistent with the Second Analogy, where (supposedly) the subjective succession of our representations is the basis for our determining objective succession (cf. Wolff 1973, 275–6). This common Anglophone view of the Second Analogy is quite mistaken. This issue goes to the core of Kant's strategy in the Second Analogy; only the most essential points may be mentioned here. (1) This view ignores Kant's distinction between representations as objects of inner sense and as objects of apperception (B233, A197/B242; 3:167.19, 172.17–21). This distinction is crucial to the Analogies, which analyze the principles on the basis of which alone representations *qua* mere occurrent states are distinguished from representations *qua* components of determinate perceptual judgments about things and events (A189–90/B234–5, A198/B243; 3:168.11–19, 172.36–173.8). (2) The appearances which we recognize to follow one another are appearances *of things* (B233, A194–5/B239–40; 3:167.14–15, 170.36–171.13), and so are not mere states of the soul or mere objects of inner sense. (3) It inverts Kant's clear insistence that any explicitly conscious, determinate subjective order of apprehension must derive from the objective order of events (A193, 195, 349–50/B238, A240; 3:170.11–22, 171.19–24, 4:220.28–221.15; this last is quoted above, note 11). (4) It is inconsistent with

In the preface to the *Foundations*, Kant merely states the implications of the Paralogisms for psychology as a science. A science, properly speaking, must be organized on rational principles.[17] Any proper science has a pure rational *a priori* part, its metaphysical foundation (*MadN* 4:469–70). But there can be no such part to psychology; accordingly, psychology can at best aspire to be an historical natural doctrine of the inner sense; it cannot be a causal investigation (*MAdN* 4:471). Psychology can at best be an orderly natural history, but not a science, not even an empirical science. Though the preface to the *Foundations* apparently stresses methodological reasons barring psychology from scientific status, the first and main reason for denying scientific status to psychology is the very same Critical reason for holding this, namely, that no causal principles can be applied in psychology. Kant refers to this Critical doctrine in the following statement from the preface of the *Foundations*:

> The reason for this [*sc.*, the limitation on this extension of cognition in psychology] lies in the fact that the pure internal intuition in which the soul's appearances are to be constructed is time, which has only *one* dimension. (*MAdN* 4:471.19–22)[18]

This sentence directly recalls Kant's statement to the same effect in his Observation on the Paralogisms, referred to earlier (above, note 9). Kant's point, here again, is that to have only one dimension is not to have three, and three dimensions are necessary for occupying space (as opposed to mere spatial location, which even nonextended points have), that is, for spatial extension. If spatial extension is required for us to make determinate judgments about substances (as Kant repeatedly insists; see §§2.5, 36), then we can make no determinate judgments about substances within the form

the Refutation of Idealism, according to which the determination of our own existence in time (and hence also the determination of the order of occurrence of our subjective states) is dependent upon our perception of enduring things external to us (B275–7, especially 3:191.22–5, 192.10–13, 192.17–21). See Ameriks (1982, 239–59); Melnick (1973, 78–97); Guyer, *Claims*, 237–59; and *infra*, chapter 4 and §65. In sum, the "rule-governed succession of states" defended in the Second Analogy concerns succession of states of *individual substances* (B232, 3:167.4); interaction between substances is reserved for the Third Analogy (above, §§2.5, 36). Identifying such rule-governed successions requires identifying substances (*per* the First and Second Analogies); but we cannot identify substances in the psychological domain (*per* the Paralogisms). Consequently, we cannot identify rule-governed, specifically causal successions among psychological states. In view of the Second Analogy and the Refutation of Idealism, Kant would apparently have to allow for the supposition of psychophysical correlations, though for the reason mentioned at the end of this section, that supposition would have to remain indeterminate; we could not, on Kant's view, establish psychophysical causal laws.

[17] *MAdN* 4:467–8; see above, §§41, 43.

[18] Ellington missed the significance of Kant's stress on "one" in this important sentence, and so omitted it from his translation. Kant set "one" in *Sperrdruck* (*MAdN* 4:471.21).

of inner sense, time, which is the sole domain of psychology. Because determinate causal judgments require determinate judgments about substances, no causal judgments can be made about the objects of inner sense, that is, about any psychological phenomena.

Why do determinate causal judgments require judgments about *spatially extended* substances? Kant provides two reasons, one from his semantics of cognitive reference, the other from the integrity of the principles of the Analogies. According to Kant's semantics of cognitive reference (above, §§7, 8), legitimate cognitive judgment requires subsuming intuitions of objects under schematized Categories. However, our fluctuating inner experience provides no intuitions of any temporally extended simple thinking subject. Hence rational psychology has no genuine cognitive basis for its alleged synthetic judgments about the thinking subject. All it can offer are analytical judgments that provide no knowledge of ourselves as thinking subjects (A350, 354; B428–9). Kant reiterates this semantic point in the *Foundations*: the "I" designates (in a logical sense, as a subject of all predicates) a substance of which we have no concept.[19] Despite the hyperbole of his phrase, by "no concept" Kant means no concept admitting of determinate use, that is, use for determinate cognitive reference and predication.[20] If we have no cognitively useable concept of this "substance" or this "subject of all predicates," then we cannot make determinate cognitive judgments about it.

Kant's second reason for his conclusion in the Paralogisms is that, according to the integrity of the principles of the Analogies of Experience, only in the case of spatial substances can we discriminate real from apparent changes of state or changes of location (above, §§2.5, 36). Though Kant does not refer in the Paralogisms expressly to the Analogies, he repeatedly insists that we can only use the concept of substance in determinate cognitive judgments regarding complex, sensed objects, where any objects we can sense or "intuit" are spatiotemporal.[21]

Kant's statement in the preface to the *Foundations* thus reiterates his conclusion in the A Paralogisms: psychology cannot offer causal explanations at all, because the form of inner sense is unidimensional, although we require intuitions of three-dimensional objects for any genuine cognitive use of our concept of substance. The joint result of the Analogies and the

[19] *MadN* 4:542.35–543.1; cf. A682–3/B710–11, 3:449.28–450.11.

[20] A349–50, 356, A402–3, 4:221.1–15, 224.24–36, 251.12–20; B421–2, 429–31, 3:275.13–20, 279.28–280.21.

[21] A402–3, A356, 4:224.24–36, 251.12–20; B421–2, 3:275.13–20; cf. A357, 4:225.6–25.

Paralogisms entail that there is no Kantian basis for maintaining causal determinism in the psychological realm. Equally, there are no grounds for denying it, either. This must be a case of Critically principled theoretical agnosticism. This suffices, however, for defending the theoretical *possibility* of free, spontaneous psychological acts, such as deliberation and volition. This provides Critically justified theoretical permission to hold the "Incorporation Thesis," which can then be justified on practical grounds.

If this is correct, it does not altogether settle the problem of reconciling freedom and determinism, but it advantageously shifts its location. If psychological determinism is in principle unknowable, then there is no problem granting Kant's "Incorporation Thesis" because there is no demonstrable psychological determinism with which free, spontaneous, rational decisions and volitions would be incompatible. Hence the problem of reconciling freedom and determinism lies instead in understanding how "practically" free (or, not known to be determined) phenomenal psychological states are coordinated with, and can be understood as causing, otherwise determined bodily behavior in space and time.[22]

Kant did not expect us to resolve this problem; he expected us never to be able to formulate this problem specifically enough to have a genuine conflict, instead of a general mystery, because he did not expect us to be able to develop enough human physiology to specify just where the problem of coordinating apparently free resolutions or volitions with causally determined bodily behavior arises. Kant did not expect us ever to understand the growth of a single blade of grass.[23] However, Kant's expectations hardly suffice as grounds for rational belief about this important topic.

The required elbow room lies elsewhere: none of Kant's theoretical arguments suffice to prove strict universal causal determinism. Kant *claims* in the Analogies to justify universal causal determinism among spatiotemporal phenomena. However, I have yet to find an argument, either by Kant or by his commentators, to support his claim that uncaused states of affairs "cannot be admitted as an occurrence among the appearances, for its possibility alone would already undermine the unity of experience" (A206/B251, 3:177.31–3; cf. A188/B231). Kant's arguments support at most the more modest conclusion that no knowledge of such an uncaused event would be

[22] This provides an independent argument to show that Wood (1984a) and Meerbote (1982, 1984a, 1984b) correctly identify where the main problem about Kant's views on freedom occurs, though my solution differs markedly from theirs.

[23] *KdU* §§75, 77; 5:400.18–19, 409.33–7. Kant's view of the relation between matter and life is discussed above, chapter 6.

possible (A201–2/B246–7, 3:175.2–20). Consequently, revising Kant's belief in strict determinism need not involve revising much if anything apart from rhetoric in his transcendental account of experience. It suffices that Kant's arguments about the causal basis of time-determination show that we can only identify the temporal order of what we experience to the extent that we can identify its causal order. Identifying a causal order sufficient for us to be self-aware, or to be aware of ourselves as having an extended, even an extensively integrated history of experiences of causal events, appears to be compatible with our failing to identify the causes of some events, or even with the occurrence of some uncaused events. Kant recognized that the clearest case for ascribing intelligence and will to someone concerns precisely their behaviors that defy causal explanation.[24] Identifying objects and events by identifying their causal characteristics and relations is indeed constitutive for the possibility of self-conscious human experience (see §65), but the extent of such identification required for self-conscious human experience, like the extent of the transcendental affinity of the sensory manifold, must be a matter of degree that cannot be determined *a priori*. Rather, once that degree (whatever it may be) is fulfilled, the extent to which we can integrate our experience by identifying extensive causal relations must be a regulative issue.

61.3 *The third antinomy*

Completing this line of interpretation requires considering the bearing of these reflections, drawn from the *Foundations*, "Analogies," and "Paralogisms," on Kant's formulation and Resolution to the Third Antinomy. The key points may be put briefly.

1. It may seem that Kant defends psychological determinism in the Resolution to the Third Antinomy, where he speaks of inferring the "empirical character" of agents from their actions (A538–58/B566–86). Kant certainly uses causal locations in this section. However, as he later makes quite clear, such "explanations" of actions in terms of agents' "empirical character" are constructed in terms of the soul as a necessary *regulative* idea. In seeking to understand the actions of an observed agent, "we are justified in connecting the phenomena of inner experience *as if* the soul were a substance."[25] Perhaps, one might suppose, we could construct

[24] *KdrV* A546–7/B574–5, 3:370.33–371.14; *KdU* "Allgemeine Anmerkung zur Teleologie," 5:484.7–19; above, §13.

[25] B710–2/B710–12, especially 3:450.30–3; original emphasis.

causal explanations of actions in terms of psychological determinism, provided we assign them only a regulative status. Kant's Resolution is clearly linked to his later discussion of the regulative idea of a soul. Kant's initial presentation of his view of freedom's compatibility with natural determinism (A538–41/B566–9) is clearly labeled a "sketch" (*Schattenriß*) when he turns to his detailed presentation (A542/B570, 3:368.17–21). His detailed presentation (A542–58/B570–86) clearly refers to the kind of empirical inquiry which is guided by regulative principles.[26]

Such an inquiry, however, cannot and does not justify psychological determinism. A merely "regulative explanation" has no constitutive status. The problem is threefold. First, *regulative* principles of empirical inquiry do not of themselves justify *constitutive* theses about the nature or causal structure of any natural phenomena. Regulative principles can only guide our inquiry into, and with luck our discovery of, constitutive and taxonomic characteristics of natural phenomena (Okruhlick 1986). Second, the phenomenal causes of actions lie in a subject who is a rational, as well as phenomenal, agent. Consequently, we are not in the same position as we are in natural science, where we can posit theoretical characteristics of substances or theoretical entities in order to provide constitutive causal explanations of certain natural phenomena (*e.g.*, magnetism; A225–6/B273–4). As Kant remarks about the soul,

> The simplicity and other properties of substance are intended to be only the schema of this regulative principle [of seeking "to represent all" psychological "determinations as existing in a single subject"], *and are not presupposed as being the actual ground of the properties of the soul*. For these may rest on altogether different grounds, of which we can know nothing. (A683/B711, 3:450.11–14; emphasis added)

Third, as Kant remarks in his General Comment on Teleology at the end of the third *Critique*, we really only have a basis for ascribing rationality and intelligent agency to human(-looking) beings when they behave in ways which *cannot* be explained except by appeal to intentional purposes (5:484.7–19; above, §§12, 13).

Kant indeed *states* psychological determinism in his Resolution to the Third Antinomy, and at times he appears to espouse it, but he does not "defend" or justify it. In seeking to maximize our understanding of ourselves

[26] Note Kant's locutions: "exhaustive investigation" (A550/B578, 3:372.33–4), "observing . . . in the manner of anthropology" (A550/B578, 3:373.1–3), "we endeavor to discover the [agent's] motives . . . in this enquiry just as we should in ascertaining for a given natural effect the series of its determining causes" (A554/B582, 3:375.20–5).

or of other agents, we of course formulate our understanding of an agent's character in causal terms. We have no other concepts with which to think about psychological character. However, precisely because we use those concepts under the guidance of the *regulative* idea of a *soul*, we cannot ascribe a constitutive status to the causal locutions used in our psychological descriptions. To do that would be to succumb to precisely the kind of transcendental illusion against which the Paralogisms seek to discipline our speculations. " 'As if' psychological determinism" is not genuine psychological determinism, and does not justify it either. We might not be able to avoid thinking that there are antecedent psychological causes for any psychological event, but that does not mean that we have any reasons to think – much less to justify the claim – that there *are* such antecedent causes at the phenomenal psychological level. Note finally that Kant's discussion of our empirical character in the first *Critique* lacks the richer basis he gives it in the *Critique of Judgment*, where he is able to maintain that the imputation of our empirical character is both a regulative and a reflective concern that cannot have a constitutive status (Makkreel 2002, 212–28).

2. Kant does not need to demonstrate psychological determinism on the basis of his own Transcendental Deduction and Analogies in order to formulate the "Antithesis" of the Third Antinomy. Though some of his language there is drawn from the Transcendental Analytic, like all the Antinomies, the issue of freedom *versus* determinism derives from the metaphysical tradition, including Spinoza, Leibniz (cf. Allison 1990, 16–19, 27), and the French materialists – not to forget Hume. Though Kant claims in his formulation of the "Antithesis" of the Third Antinomy to have demonstrated thoroughgoing psychological determinism (as a corollary to the determinism of nature) in the Transcendental Analytic,[27] in fact he did not prove this, as he apparently recognized in the Paralogisms and certainly in the *Foundations*. If the Analogies are integrated in the way that Guyer and I have argued (above, §§2.5, 36.3), Kant *cannot* have proven psychological determinism in the Analogies. In this regard, Kant's formulation of the "Antithesis" of the Third Antinomy is inconsistent with the Analogies. Insofar as Kant's Antinomies address the metaphysical tradition, this inconsistency is unimportant.

3. In resolving the Third Antinomy, Kant appeals prominently to transcendental idealism.[28] My resolution of the problem of alleged knowledge of psychological determinism shows that transcendental idealism,

[27] *E.g.* A447/B475, A536/B564, A542–3/B570–1; 3:311.4–9, 365.8–11, 368.22–34.
[28] *E.g.*, A357, A361, A362, A369–80, B412–13.

even if it were tenable, is an excessive philosophical overreaction to the problem of the Third Antinomy. That problem can be solved, within Kant's transcendental analysis of the necessary *a priori* conditions of integrated self-conscious experience, by the Analogies and the Paralogisms. My resolution also leaves intact the issue left standing by Kant's solution to the Third Antinomy, of how psychological states, specifically volitions, relate to bodily behavior (above, §61.2 end). In this regard, my interpretation augments, rather than replaces or undermines, Kant's Resolution of the Third Antinomy because it provides him the good theoretical grounds he needs to entitle us to regard, from a practical point of view, our psychological states as nonsufficient determining grounds of the will.

4. Kant says various things in his discussion of the Third Antinomy about LaPlace's thesis that all events are determined, and that if we knew enough, we could predict all events, including human action. Sometimes Kant affirms LaPlace's thesis and claims that this is established in the Transcendental Analytic (*e.g.*, A550/B578, 3:372.32–6). However, Kant also claims here that there is a kind of practical freedom that is independent of "coercion" or "necessitation" through sensuous inclinations (A534/B562, 3:363.28–364.3). That is a direct denial of LaPlace's thesis as applied to human psychology, and it contradicts his own affirmations elsewhere in this same section. If my interpretation is sound, the Transcendental Analytic ultimately does not support LaPlace's thesis when applied to human psychology (as Kant himself realized in the *Foundations*), and Kant is entitled to his denials of that thesis in that domain. When Kant says that if we had full knowledge, we could predict any course of human action, we must suppose that he acknowledges the finitude of our abilities to collect and sort the relevant data. If so, LaPlace's hypothetical ideal of full psychological information is a transcendent idea, according to Kant's Critical principles; indeed Kant says as much (A682/B710, 3:449.31–4).

5. The Antinomies stem from the first edition of the *Critique* (1781). If I am correct that the defense of external causality in the *Foundations* is crucial to the Analogies, then it may be understandable that Kant had not fully grasped the implications of the first edition Analogies and Paralogisms at the time he formulated the Antinomies. Despite some clear statements in the Paralogisms that imply the contrary, at the time he wrote the Transcendental Dialectic, Kant expected there to be two parts to the *Foundations*, one on psychology and the other on physics (A846–9/B874–7). When he wrote the *Foundations*, Kant realized that there could be no metaphysical foundations for psychology, because there could be no

rational science of psychology. He published the *Foundations* (1786) before the second edition of the first *Critique* (1787), but he did not revise the Antinomies in view of it. This at least partially explains the retention of passages in the Antinomies that are inconsistent with the *Foundations* view of psychological determinism.

6. The fact that Kant did not revise the Antinomies may help to explain why he still expressed psychological determinism in the second *Critique* (1788), which was published the year after the *Foundations*. It is puzzling, however, that Kant would have insisted on psychological determinism in the second *Critique*, if the *Foundations* had drawn his attention to the joint implications of the Paralogisms (in either edition) and the Analogies for theoretical agnosticism about psychological determinism.

7. My suggestion (above, §61.2 end), that my interpretation shows how Kant's Critical principles relocate the problem about the compatibility of freedom and determinism to the relation between psychological states and bodily behavior, is consistent with the formulation of Kant's view (presumably under Kant's direction) in Kraus's review of Ulrich's *Eleutheriologie* (1788), because Kraus speaks generally of the connection of freedom and nature within human beings (8:454.5–9).

8. To note these shifts in Kant's views is not to espouse Allison's bogey, a "patchwork theory" of the Critical philosophy. Kant himself fully recognized that the founder of a new discipline must have an idea of the structure of that discipline, though the formulation of that idea may require revision as the science is developed (A834/B862, 3:539.28–540.6).[29]

9. Although Kant seems not fully to have appreciated the implications I have drawn from the Analogies and the Paralogisms, my ultimate interest here is in determining whether Kant had adequate grounds for his views, for example, that the human will is – or at least, can and must be regarded by us as – an *arbitrium sensitivum liberum*. This I believe I have shown, at least insofar as I have shown that he has no theoretical grounds to the contrary. This provides Critical permission to settle the issue on practical grounds. Those practical grounds are analyzed well by Allison in his discussion of the Incorporation Thesis.

[29] For discussion of some of the development of Kant's view of the distinction and relation between transcendental and metaphysical philosophy, see Förster (1989a, 2000). The best examination to date of the development of Kant's views within the first *Critique* is Melnick (1989).

61.4 *Two conclusions*

One might doubt the adequacy of Kant's grounds for denying the scientific status of psychology, since his view of psychology is based centrally on his claim that the subject matter of psychology is contained entirely within the form of inner intuition, time, which is unidimensional. Such a view hardly comports with modern developments in psychological science. Yet the subject matters of modern psychological science are so complex that only various aspects of human psychology can be studied by various psychological methods or techniques. Hence neither the data nor the theories are available to address concretely the issues of freedom and determinism within scientific psychology. Of course the rhetoric of psychological determinism is commonplace, among some psychologists as well as philosophers, especially those who identify themselves as causal naturalists. At a minimum, I submit that Kant's analysis of causal judgments (in the first *Critique* and the *Foundations*), which highlights our inability even properly to form such judgments in psychology (as Kant understood it) poses a serious question omitted by contemporary psychological deterministists: under what conditions can we identify genuine psychological causes? Under what conditions can we legitimately make cognitive judgments about them? Under what conditions are we entitled to give the causal idioms we use within psychology a constitutive interpretation? The lack of concern about such questions reflects how un-Critical is so much recent discussion of psychological determinism. Kant's questions demand our attention, even if some of his answers may not.

There is also an important epistemological conclusion to draw: Kant's Critical proscription of causal judgments within the psychological realm, that is, within the unidimensional temporal form of inner experience, underscores the fundamental fact that, on Kant's analysis, the causal judgments required for us to be self-conscious are all causal judgments about objects and events in space and time. Successful judgments of these kinds are constitutive of the very possibility of self-conscious human experience, certainly of any ordinary self-conscious human experience in which we are aware of ourselves as being aware of some events happening before, during, or after others (B275). These judgments must be about objects or events external to us, existing unto themselves in space and time. This involves causal realism about molar objects and events in our environs, and it both reinforces and augments Kant's claim that the source of sensory affection is something other than ourselves (§8, 9) and his transcendental proof of the transcendental affinity of the sensory manifold (§25, 27). This realism is further supported by the next two sections.

62 JUSTIFYING THE METAPHYSICAL CAUSAL PRINCIPLE TRANSCENDENTALLY

62.1 *Introduction*

In chapters 4 and 5 I argued that the crippling gap Kant recognized in his system is that the failure of his treatment of the dynamic forces of matter in the *Foundations* deprived Kant of the link he needed between the transcendental causal thesis, that every event has a cause, and the metaphysical causal thesis, that every physical event has an external physical cause. However, conceiving matter as purely *partes extra partes* because of the alleged formal structure of space as an *a priori* form of human intuition does not suffice to rule out the physical possibility of hylozoism or other purely "internal" forms of causation. This is the point of the errant billiard balls (above, §§56, 57). Thus the resources of transcendental idealism proved insufficient for one of Kant's most fundamental Critical proofs, namely, of the legitimacy of our causal judgments, both commonsense and scientific. Resolving the problem posed by the distinction between the transcendental and the metaphysical causal theses requires, not idealism, but further transcendental analysis and epistemic reflection. These, together with careful consideration of Kant's semantics of cognitive reference, suffice to warrant the metaphysical causal thesis that every physical event has an external physical cause.

Kant developed his semantics of cognitive reference within the framework of transcendental idealism, which treats space and time as nothing but forms of our intuition (above, §§7, 8). However, transcendental idealism is not required by Kant's semantics of cognitive reference. Kant's semantics is equally well supported by the alternative account of our forms of intuition I gave earlier, according to which space and time themselves are mind-independent, transcendentally real conditions for possible self-conscious experience, though our forms of intuition are spatial and temporal in the sense that they are only receptive or sensitive to stimulation by spatiotemporal phenomena (§§19, 20, 27). On this view, as on Kant's transcendental idealist view, both singular perceptual presentation and singular cognitive reference require spatiotemporal intuition of the particular in question, and conceptual determination of its (approximate) spatiotemporal boundaries, which is in part afforded by correctly (if not precisely) identifying some of that object's (or event's) manifest, sensed characteristics.

62.2 *The cognitive transcendence of the transcendental causal thesis*

I propose that Kant should have said, and is entitled to say, about the distinction between the transcendental and the metaphysical causal theses, precisely what he did say about occasionalism in the second Analogy and about simple substance in the first edition Second Paralogism. Kant is entitled, on the basis of his transcendental analysis of the semantics of cognitive reference and of the problems of time-determination that confront causal judgments, to reject the skeptical possibilities apparently raised by the distinction between the transcendental and metaphysical causal principles as so much idle, cognitively transcendent speculation. We human beings cannot use the transcendental causal principle as such in connection with the phenomena we experience. We can only use the more specific metaphysical causal thesis in determinate cognitive judgments about the phenomena we experience. More precisely: the only cases in which we can legitimately use the transcendental causal thesis in determinate cognitive judgments are cases in which we legitimately use the metaphysical causal thesis in identifying causal features of and relations among spatiotemporal, physical objects and events. This may be one reason why the distinction between these two principles has been disregarded in the literature, or even by Kant in the Analogies.

In the Second Analogy, Kant writes off occasionalism in these terms:

> If something happens . . . this arising concerns, as was shown in [the first Analogy], not substance (for that does not arise), but its state. It is therefore merely alteration, and not an origination out of nothing. If this origination is regarded as the effect of a foreign cause, then it is called creation, which cannot be admitted as an occurrence among appearances, for its possibility alone would already undermine the unity of experience, though if I consider all things not as phenomena but rather as things in themselves and as objects of mere understanding, then, though they are substances, they can be regarded as dependent for their existence on a foreign cause; which, however, would introduce entirely new meanings for the words and would not apply to appearances as possible objects of experience. (A206/B251–2, 3:177.23–178.2; tr. G&W; above, §41.2)

Kant clearly alludes to occasionalism here, which was based on Descartes's view that God "conserves" the world in existence by, in effect, recreating the world from one atomistic moment to the next in its own image, with just enough difference to provide for what appears to us to be changes in particular substances and states of affairs. According to Descartes, the difference between divine creation and divine conservation is merely

a distinction of reason.[30] The "foreign cause" of which Kant speaks in the passage quoted is a divine, certainly a transcendent creator.

Kant's objection to occasionalism involves more than his claim to have proven that we can enjoy integrated, self-conscious experience only if we never experience creation *ex nihilo*. Kant's objection to occasionalism also involves his semantics of cognitive reference: formulating occasionalism properly would require "new meanings for the words," where these new meanings would *not* afford principles or judgments that could "apply to appearances as possible objects of experience." Kant's appeal to his semantics of cognitive reference in this passage is significant. Precisely how significant it is to the two causal principles may be less obvious, because foreign causes are by definition external causes. The case Kant needs to rule out is "absolutely" (not "relatively") internal causes among spatiotemporal phenomena (above §§35.4, 56, 57). Absolutely internal causes are much closer to Leibnizian monads, and are exemplified by physical monads much like those Kant himself advocated in his pre-Critical work.[31]

In this connection, consider Kant's remark at the end of the Second Paralogism (first edition):

> even the fundamental concept of a simple nature is of such a kind as cannot be encountered anywhere in experience, and hence there is thus no path at all by which to reach it as an objectively valid concept. (A361)

The concept of a "simple nature" is central (though not exclusive) to monadology, whether Leibniz's idealist version or physical monadology. Kant's objection to the legitimate use of this concept is based squarely on his semantics of cognitive reference. An "objectively valid" concept is one that has possible reference; it can refer to objects or events that may occur in our experience (above, §8). Kant's verdict is plain: we cannot encounter any such thing as a simple substance within experience. Why not? Very briefly, because for human beings, knowledge requires singular cognitive reference; singular cognitive reference requires singular perceptual presentation; and singular perceptual presentation requires perceptual synthesis of a manifold of sensations to form sensory intuition of the particular in question. Our experience of the plurality of sensed qualities of any object suffices to know a spatiotemporal substance, though not to ascribe simplicity to it.

[30] Descartes (1964–), 8A:12, 23–4, 66, 7:49; (1985), 1:199–200, 243, 2:33.

[31] Ak 1:473–88. For discussion of Kant's *Physical Monadology*, see Schönfeld (2000, 161–79), Laywine (1993), and Edwards (2000, 118–23).

Kant could and should have rejected the determinate cognitive use of the transcendental causal principle, that every event has a cause, just as he rejected occasionalism, simple substances, and rational psychology, on the basis of his semantics of cognitive reference and his analysis of the transcendental conditions and implications of causal judgment. In view of Kant's semantics of cognitive reference and his analysis of our transcendental conditions of causal judgment, the only causal principle we can use in determinate cognitive judgments is the metaphysical causal thesis, that every physical event has an external physical cause. Restricting the cognitive use of the transcendental causal principle to those cases in which we can legitimately use the metaphysical causal principle is justified by more thorough epistemic reflection on these two complementary Kantian analyses.

I argued earlier (§§2.5, 36) that the principles Kant defends in the Analogies form an integrated set and an incremental proof of transeunt causality. We can only use any one of the principles of the Analogies by conjointly using all three, in order to identify and discriminate rule-governed causal processes of various forms, including changes of state, local motions, translational motions, radical transformations of substances, or any forms of causal interaction between substances. By Kant's semantics of cognitive reference (§§7, 8, 61.2), we can only make causal judgments about perceived spatiotemporal objects and events. The only causal antecedents or consequences we can ever identify are and can only be among spatiotemporal phenomena.[32] Failing the successful, legitimate use of such causal judgments would leave us unable to so much as contemplate Hume in his study, pondering the porter's delivery of a letter (*T*I.iv.2). Failing the successful and legitimate use of causal judgments, we could form no integrated history of experience of any one object or event, however brief, and so could not distinguish ourselves from that object or event, and so would fail to be self-conscious, quite aside from integrated awareness across experiences of objects or events. In this regard, the transcendental affinity of the sensory manifold (chapter 3) is a necessary condition for self-conscious human experience, though not a sufficient condition. Successful causal judgments are also necessary, on transcendental grounds, for the very possibility of self-conscious human experience (below, §65), for legitimate causal judgments are necessary for self-ascription of our experiences and for our awareness of our empirically determined existence (above, §2.3).

[32] A188/B231, B233, A199–200/B244–5, A206–7/B252, A212–13/B259–60, A215/B262, A217/B264; cf. A194/B239–40,

Why is this condition, that the objects and events we experience must be causally structured, satisfied? Kant's transcendental idealist answer is that we structure the phenomenal world we experience causally. This study has argued at length (chapters 4–6) that Kant's transcendental idealism ultimately fails to justify this claim (see §58). Kant's transcendental idealism fails to show that causality is a transcendentally ideal condition for the possibility of self-conscious human experience, because it fails to justify the metaphysical causal thesis, which in fact is required by the Analogies of Experience. Nevertheless, I submit that Kant's transcendental analysis of the discriminatory nature of causal judgment (above, §§2.5, 36), and his transcendental analysis of the fundamental roles of causal judgment in our identification of objects and events in our environs, and in our identification of ourselves as subjects who are distinct from those objects and events (§§2.3, 65), are sound. Consequently, these transcendental analyses ultimately have the same kind of implication as that found above (chapter 3) in the case of transcendental affinity. These transcendental analyses establish a conditional necessity: any natural world in which we human beings can enjoy self-conscious experience (more precisely, in which we can be aware of our existence as determined in time; B275) is a world containing causally interacting perceptible molar substances. This is a second, genuinely transcendental argument *for* mental content externalism.

62.3 *Genuine transcendental proofs are not verificationist*

The result just reached is so commonsensical that it may be disappointing, or may raise suspicions, either that this is just a baroque form of verificationism, or that this result could be reached much better and much more directly on verificationist grounds. Such responses seriously underestimate the situation. The conclusions I have defended in this study are neo-Kantian because they dispense with transcendental idealism, while turning his transcendental analyses and proofs to the service of realism *sans phrase* about molar objects and events. Consider two observations, one substantive, the other methodological.

Regarding philosophical substance, Kant's proof of the transcendental affinity of the sensory manifold (chapter 3) suffices to refute not only Kant's own transcendental idealism, but also, for example, Carnap's rejection of realism, based on his distinction between internal and external questions, and Putnam's arguments for internal realism (Westphal 1998c, 2003). (A related point regarding minimalism and realism about truth is

considered below; §63.6.) Kant's proof of this affinity is a transcendental argument for externalism about mental content. Moreover, Kant's transcendental proofs involve externalism about justification, for they are based on the satisfaction of a set of *a priori* transcendental conditions for the possibility of self-conscious human experience, regardless of whether any particular cognizant human being is aware either of these conditions or of their being satisfied.

Regarding method, the conclusions defended in this study use *a priori* concepts, centrally, the concepts of cause, substance, space, time, self, and individuation. I have only been able to discuss briefly the *a priori* status of the concepts of cause and substance (§§2.5, 21 end). Though these concepts can be exhibited in experience, as Kant says, by designating instances of them, their meaning is transempirical in ways that are inconsistent with verificationist approaches either to meaning or to confirmation.

Second, the conclusions reached in this study are justified by transcendental analysis of some of the *a priori* necessary conditions for the very possibility of self-conscious empirically determined human experience; centrally, the conditions of the transcendental affinity of the sensory manifold (chapter 3), the transeunt causal structure of the natural world (chapters 4 to 7), the transcendental role of causal judgments in ordering and integrating our experience of the world and of ourselves (§§2.3, 65), and the semantics of determinate cognitive reference (chapter 2). Genuine transcendental proofs are not verificationist, despite widespread simplifications suggesting the contrary (chapter 1).

Third, verificationism has its home in infallibilist views of justification, for verificationist principles all aim to provide determinate and exhaustive criteria to demarcate between justified and unjustified claims. Kant defends a fallibilist account of causal judgments (A766–7/B794–5, quoted above, p. 75). Kant's transcendental idealism fails to underwrite Kant's deductivist model of scientific knowledge, including its ideal of apodictic certainty (§58). Regardless, Kant's claims to prove "apodictically" the key results of his transcendental proofs all rest on an inventory of our human cognitive capacities. This inventory is established through transcendental reflection, which is a fallible undertaking, and so requires constructive mutual criticism to assess and, Kant expects, to ratify it (O'Neill 1992). Kant's "new way of thinking," his new philosophical method of transcendental reflection, is fallibilist, and is philosophically sound in ways that Kant's inherited distinction between rational and empirical knowledge is not (see below, §§63.3–63.5, 64).

63 KANT'S CRITIQUE OF GLOBAL PERCEPTUAL SKEPTICISM

63.1 *Introduction*

Distinctive of this study is its emphasis on the nature and role of epistemic reflection on our cognitive capacities involved in Kant's analysis, and how Kant invites us to reflect on our cognitive dependence – both sensory and judgmental – on the world we inhabit. This is to agree with, but also significantly to augment, Walker's (1989, 65; 1999) point that Kant's transcendental arguments are offered not third-, but second-person. Kant's transcendental proof of realism regarding spatiotemporal objects and events involves establishing conditional necessities, where the relevant conditions concern both our cognitive constitution *and* the cognizable structure of the spatiotemporal world.[33] Epistemic reflection aims to enable and to induce us to identify and appreciate just what those conditions are, both mental and ontological, and how *our* experience, *our own* consciousness of our determinate existence in time, depends on them (§§8, 9, 22.2, 23.1, 23.5, 36.3, 56).

Kant expressly defended "empirical realism," not realism *sans phrase* about spatiotemporal objects or events. This observation raises a host of objections I have postponed until now. The central objection is that Kant's empirical realism requires his transcendental idealism (A189, A190/B235–6, A369–72), and transcendental idealism is as repugnant as the skepticism it is supposed to cure.[34] Very briefly, I reply that Kant's transcendental proofs do not require transcendental idealism (cf. Harrison 1982), which is fortunate, because Kant's arguments for transcendental idealism are invalid, and a sound version of the "neglected alternative" can be derived directly from Kant's account of the transcendental affinity of the sensory manifold (chapter 3).

63.2 *Kant on cognitive reference*

One advantage Kant gained at the empirical level by adopting transcendental idealism is a direct, rather than a representationalist, theory of perception of spatiotemporal objects and events. However, Kant overreacted to the skeptical implications of representationalist theories of

[33] Cf. Harrison (1982), Stroud (1994b, 231–2, 234, 236). However, Stroud (1999, 164–5) fails to appreciate the properly conditional necessities Kant aims to establish.

[34] Stroud (1968), (1984a), 148, 166, (1994a), 238, (1994b), 236, 237.

perception. Such theories rest on overhasty arguments from illusion, and on assimilating acts of sensation (sensings of objects) to objects of sensory awareness.[35] Rejecting rather than coopting representationalist theories of perception accords with Kant's better reasoning, according to which perceivings are appearings, not appearances.[36] On Kant's view, sensations "presuppose the object (*Gegenstand*)" sensed, where we (typically) sense "real" features (*i.e.*, nonformal, positive characteristics) of that object (above, §7).

The pressing question in many minds, however, is this: could it not somehow happen, whether by a *malin génie*, envatted brains fed by magical supercomputers, or just by sheer cosmic coincidence, that our sensory receptors are stimulated in such a way that we appear to perceive the commonsense world around us, even though we do not?[37] This challenge was already put by Hume:

> As to those impressions, which arise from the senses, their ultimate cause is, in my opinion, perfectly inexplicable by human reason, and it will always be impossible to decide with certainty, whether they arise immediately from the object, or are produced by the creative power of the mind, or are derived from the author of our being. Nor is such a question any way material to our present purpose. We may draw inferences from the coherence of our perceptions, whether they be true or false; whether they represent nature justly, or be mere illusions of the senses. (*T* 84)

Kant was well aware of such suggestions (A98–9, 368, B276, *Prol.* 4:319 note). Rejecting representationalist accounts of perception removes Hume's point of departure, namely, his theory of impressions. Kant and Sellars are right that sensations are introduced as part of an explanatory account of how we can be aware of the world; only under highly unusual circumstances are outer sensations themselves objects of awareness. One key result of Kant's epistemic reflection is to recognize that our forms of

[35] See Dancy (1995). Perkins (1983) defends a very sophisticated representationalist theory of perception. However, by requiring immediate proximity in the *causal* chain of perception (1983, 11–12, 16–18, 21–2), he sets up his problem in such a way that only a representationalist theory could possibly result. Kant's view of the role of sensations within sensory intuitions is in line with Dretske's (1981) point that, in information channels, the detector can be proximal even though what is detected is distal. Perkins disregards this prospect. His definition of "attentive sensory perception" (1983, 19) entails that only sensory qualities can be the direct objects of sensory awareness. This of course entails indirect realism, but only by begging the question in its favor.

[36] I defend the "appearing" theory above (§ 11). Regrettably, Stroud (1984a, 163–4) slides from representations in us *being* the perceiving of an external object to our perceiving a representation of an external object. Conflating the act and the object of perception is classic pyrrhonian sleight of hand; see Sextus Empiricus (1933b, Bk. II §74).

[37] Cf. Stroud (1968, 255; 1979, 288–9).

sensibility are passive; they require stimulation by something other than us (above, §9). Nevertheless, global skeptical hypotheses suggest that our sensations are caused by something other than what appears to be their commonsense worldly causes, so that we are completely duped, even though on Kant's grounds we could, allegedly, be self-conscious within such a world. Allegedly, Kant can only appeal to his transcendental idealism to forestall such objections. This is mistaken.[38]

Very briefly, Kant's theory of *a priori* categories and their schematism grounds a crucial distinction between propositional and cognitive significance (above, §8). We can think whatever we like, provided we do not contradict ourselves (Bxxvi note), but this does not suffice for cognitive significance or reference. The basic point of this contrast can be seen by recalling that definite descriptions do not suffice for knowledge of particulars because specificity of description cannot guarantee particularity of reference. Particularity of reference requires token indexicals in some form, which can play their role in human cognition only in perceptual circumstances (which can include observational instruments).[39]

Kant does not espouse a verificationist theory of meaning,[40] but he does contend that the cognitive significance of judgments (or the propositions they express) is tied to the conditions of perception, including sensible intuition.[41] Sensory intuition is required, on Kant's view, both for singular presentation and for singular cognitive reference. According to Kant, our *a priori* conceptual categories can be used in genuine cognitive judgments

[38] I have become increasingly impressed by the fact that, and the extent to which, Kant provides sets of parallel considerations to support particular conclusions he seeks to defend. To be sure, he designs these to form a single package. However, there is at least the prospect that some of Kant's considerations might stand without the others. In particular, I suggest, most if not all of his theory of cognitive judgment can stand independently of transcendental idealism, Kant's claims to the contrary notwithstanding. An unfortunate feature of Stroud's (*e.g.*, 1984a, 155, 158, 160; 1994b, 234–5, 238, 240, 248; 1999, 160) view of Kant is that he takes Kant at his word about transcendental idealism forming a necessary basis for his entire epistemology (cf. Guyer 1984, 240). Rorty (1979b, 79) makes a similar assumption (his condition "e"), though his statement of this condition is incompatible with Kant's crucial distinction between the form and the matter or content of experience. Cassam (1987, 362–72) sheds light on why Kant erred in holding that transcendental arguments require transcendental idealism.

[39] §§2, 3, 8, 9, 19; cf. O'Neill (1976), Harper (1984b), Baum (1986), Melnick (1989), Hanna (2001), §4.2.

[40] *Pace* Strawson (1966, 16), Bennett (1966, 22–4), Rorty (1979b, 89), Stroud (1983, 424; 1984a, 161); see Bird (1982, 73–6), Hanna (2001), and above, §§7, 8.

[41] A68–9/B93–4, B146–9, A225/B272–3, A146–7/B186–7, B298–300/A239–41, A258/B314, A286–7/B342–3; cf. Schnädelbach (1977, 120–5); Dreyer (1966). This aspect of Kant's semantics differs from the assertibilist semantics constructed by Posy (1981, 1983, 1992), which mimics Kant's transcendental idealism. Recall Kant's practical grounds for providing possible reference to certain moral concepts (above, §§12, 13).

only if they are brought to bear in certain ("schematized") ways on spatiotemporal phenomena. The inextricably spatial and temporal character of our sensory experience thus has a crucial role in cognitive reference. This is because cognitive reference requires singular demonstrative reference, and we human beings can only secure singular demonstrative reference by sensing particulars. Indeed, this was a central contemporaneous technical sense of the term *Erkenntnis* (George 1981, 241–3). Kant's semantics of cognitive reference suffices, I submit, to establish, on epistemological grounds, without recourse to transcendental idealism, that standard skeptical hypotheses are in principle cognitively transcendent – they are cognitively idle pseudohypotheses, or so I argue in the following section.[42]

63.3 *Kant's transcendental response to global perceptual skepticism*

The skeptical question about justifying the whole of our perceptual knowledge *in toto* asks us to answer an external observer's question about the relation in general of our beliefs in general to the world in general, while allowing us only to rely on our own particular beliefs *about* ourselves and our cognitive relation(s) to the world. We are asked to prove the authenticity of our own putative knowledge while suspending the putative cognitive relations between our beliefs and experiences and their putative worldly objects (Stroud 1989, 34, 36; 1994b, 301–4).[43] No wonder this skeptical challenge seems insuperable! But this does not entail that we have no cognitive relation(s) to the world.

Indeed, Kant's cognitive semantics shows that this kind of skeptical worry is a paradigm example of transcendent metaphysical speculation. The skeptical reference to the "totality" of our sensory experience ought to direct us to Kant's Transcendental Dialectic. There Kant notes:

> Appearances require to be explained only insofar as their conditions of explanation are given in perception; but all that may be given in it, taken together in an

[42] This is also to suggest that there is much more of philosophical value in Kant's cognitive semantics than is recognized by Coffa (1991, 16, 20), who claims that Kant's semantics is entirely causal and psychological. Coffa overlooks the point made forcefully by Melnick (1989) that Kant's point of departure for the entire *Critique* was his rejection of both causal and descriptions theories of reference. Coffa also fails to recognize the sophistication of Kant's logic (on which see Wolff 1995, 1998, 2000).

[43] Stroud (1989, 48; cf. 1996, 358) states: "the question is whether we can take up such an 'external' observer's position with respect to ourselves and our knowledge and still gain a satisfactorily general explanation of how we know the things we know. That is where I think the inevitable dissatisfaction comes in."

absolute whole, is not itself a perception. But it is really this whole for which an explanation is demanded in the transcendental problems of reason. (A483–4/B511–12; tr. G&W)

The "transcendental" problems Kant here discusses are those of traditional ontology, which Kant replaced with a "mere" analytic of our pure understanding (A161/B207). Precisely because global skeptical hypotheses do and must leave the apparent contents of our sensory experiences intact, they also must be cognitively transcendent. They are thus also cognitively idle. (This is, in effect, Bouwsma's (1949) point.) Significantly, Kant writes off both occasionalism and divine conservation for just this reason in the Second Analogy (A206/B251–2; above, §36.2). Yes, all our cognitive bets are off in an occasionalist universe, or one governed by divine conservation, in which God recreates the world moment to moment, with just enough difference to produce all that appears to us as change, whether motion or transformation (Descartes 1984, 2:33).[44]

Should we take these cognitively transcendent possibilities seriously? Why? They serve to defeat justification only if epistemic justification requires eliminating all logically possible alternatives to what one claims to be the case. This exorbitant requirement makes sense only if justification is conceived solely in terms of sound deductive argument – as provability in an axiomatic system. This is the demand of justificatory infallibilism, which guided Kant's model of scientific knowledge. Why import this assumption into the nonlogical, nonmathematical domain of empirical knowledge? The only reasons for so doing were already given by its first importer, Descartes, who saw that this would be a fine kind of justification if we could but obtain it, and that obtaining it would, he thought, allow us to answer directly any and every possible skeptical challenge. Unfortunately, this hope was too optimistic. Introducing a *malin génie* or the possibility of envatted brains puts even formal provability beyond our ken, because such causes of belief can in principle make us believe we have formally proved a result, even if we have not, or even if we have correctly recited the premises of a valid proof in order, so long as *it* causes our beliefs or utterances, so that none of our conclusions are *rationally based by us* on their putative premises. Truth without justification is not knowledge. If we are up against the *malin génie* or vats

[44] Also see above, §2.5 end, and Westphal (forthcoming) regarding Wittgenstein.

and supercomputers, we cannot know $2 + 2 = 4$, even if our belief happens to be true.[45]

Kant recognized that, along with his account of *a priori* knowledge, a sound account of empirical justification must be based on transcendental logic, not simply on general logic, and on an account of the role of sensation in securing singular cognitive reference.[46] Significantly, Kant also recognized that human empirical knowledge affords and only requires a fallibilist account of justification (cf. A766/B794). This accords, too, with the fallibilist, protopragmatic elements in Kant's meta-Critical account of the collective assessment and justification of our basic inventory of cognitive resources (O'Neill 1992). Kant's account of transcendental reflection, and with it what I have called Kant's "epistemic reflection," is fallibilist. I submit that one lesson learned by epistemic reflection is that human empirical knowledge requires a fallibilism, and that this fallibilism is consistent with the genuinely transcendental proof that we can and do know at least something about the objects and events in our environs. In effect, Kant's transcendental idealism is the grandest philosophical attempt ever to provide demonstrative, apodictic proofs, worthy of metaphysical "science," of (*inter alia*) various empirical truths disputed by skeptics. Yet close analysis has shown that not even transcendental idealism can fulfill the grandiose claims of justificatory infallibilism. The importance of these points can be appreciated by reconsidering Stroud's case for global perceptual skepticism.

63.4 *Stroud's presentation of global perceptual skepticism*

With much ingenuity, Stroud has formulated the skeptical concern with justifying the whole of our putative perceptual knowledge with no obvious appeal to skeptical hypotheses, by identifying an apparently significant question about the totality of our perceptual knowledge that we need either

[45] Cf. B168; Walker (1989, 69); Engstrom (1994, 366); Westphal (1987–8, 102–6, 108). Körner (1979, 68–9) recognizes that this strong deductivist requirement cannot be fulfilled, but none of his alternatives recognize the nature or role of epistemic reflection. Förster (1989b, 11) notes that this "nondeductive" aspect of transcendental arguments is a function of their conclusions not being analytic truths. The most illuminating analysis I have seen of the infallibilist conflation of justification with deduction, and what is instead involved in rational justification, is Will (1988), to which Will (1997) is propaedeutic.

[46] The precise scope and character of Kant's transcendental logic must be reconsidered thoroughly in light of Wolff (1995, 1998, 2000). Cf. Schnädelbach (1977, 103–33), Nussbaum (1990), Hanna (2001), and Greenberg (2001).

to answer or to show to be in principle inappropriate.[47] Kant warns expressly against the pretension to be able to answer any and every question (A476/B504, cf. A58/B82; cf. Stroud 1989, 32), and just after the passage quoted above from the Dialectic, he notes that the whole of perceptual experience is itself not given in perception or as an object of perception, so that it cannot be explained on the basis of the laws governing experience (A484/B512). The "whole" of perceptual experience is a construct, and as recounted above, Kant contends that it can be constructed only if we can reconstruct the ineluctably successive order of passing moments of time within our experience, even though we cannot perceive time or space themselves. To do this requires determining, that is, distinguishing, which perceptions are of concurrent and which are of objectively successive states of affairs (motions and transformations), in the local case of identifying manifold characteristics of individual objects and events, and on the basis of such identifications, also in the global case of constructing a history of our own experiences, out of which skeptics demand that we form a putative "whole" of perceptual experience. For transcendental reasons identified by Kant, the collective whole about which Stroud inquires is only possible on the basis of distributive local successes in identifying objects and events.[48] However, Stroud formulates his global skepticism about perception in a way that precludes the generation of any member of this constructed whole. He (1996, 353–5) recognizes that questions can be raised about the sufficiency of any particular, brief perceptual episode for obtaining knowledge, but then prohibits our appeal to any collateral perceptual episodes because "how knowledge of an independent world is acquired by sense-perception, on any such occasion is precisely what we are

[47] Stroud (1968), (1979, 292–3), (1984b, 549–50), (1989, 1994b, 1996). Notice that Stroud (1984b, 549–50; cf. 1989, 37) looks for a proposition about *the world* in order to solve global skepticism about empirical knowledge; though *ex hypothesi* no such propositions are cognitively available to us. Kant looks instead to propositions about our cognitive capacities, which can entail propositions about our epistemic dependence on mind-independent reality. This is central to Kant's strategy in the Transcendental Analytic, and especially to his account of the transcendental affinity of the sensory manifold (above, chapter 3). Stroud (1999, 160) acknowledges that Stroud (1968) is not specifically about Kant, contrary to widespread assumption.

[48] Stroud (1996, 356) himself comments: "human beings are such that, in the world as it is, they do not get any knowledge of the world without getting some knowledge through sense perception. If that is true, it is a truth about human beings and the world they live in, not merely about relations among the propositions they know to be true when they have such knowledge." Rorty (1970, 229) observes that this kind of "genetic" claim cannot be established by Strawsonian considerations regarding the interdependent use of concepts. That may be correct, but Kant's considerations are not limited to linguistic usage; they are rooted deeply in philosophy of mind – in elements of a cognitive psychology key points of which can be revealed by careful epistemic reflection. Strawson (1970, 1979) came to recognize the importance of such considerations, though his critics have not.

trying to understand." This is the standard foundationalist -*cum*- skeptical strategy of raising doubts about any particular putative perception and generalizing from the universal possibility of error to the possibility of universal error.[49] This strategy involves at least five errors.

First, this way of posing the problem and limiting our resources for answering it directly, if surreptitiously, introduces the alleged epistemic "priority" of sensory experiences over their putative worldly objects. As Stroud himself repeatedly notes, this is the key to global perceptual skepticism.[50]

Second, this way of posing the problem disregards Kant's transcendental proof that individual sensory episodes only form knowledge insofar as they are integrated with perceptions of the same and of other objects and events, where all such integration is based on and derived from the causal structure of the spatiotemporal world and of our perceptual interaction with it (see below, §65). The point of Kant's transcendental response to skepticism is that the skeptical generalization is invalid: failure ever to identify outer objects and events would undermine our distinguishing the world from our experience of it, which would undermine our ability even to identify our experiences.[51] In that case, however, we would fail to be self-conscious, and so could not even understand, much less respond to, Stroud's skeptical demands, because we could not even understand the *word order* in which they are expressed. Likewise, were Stroud really in the skeptical predicament he describes, he could not describe it, nor could he promulgate it to us.

Third, this skeptical generalization requires assimilating, for philosophical purposes, skeptical hypotheses to ordinary grounds of doubt (Stroud 1996, 347). This disregards the important difference in kind between ordinary and skeptical grounds of doubt; the former admit of empirical investigation, at least in principle, whereas the latter in principle do not.

[49] I concur with Stroud (1989, 35) that this demand need not involve the strong foundationalist claims about the incorrigibility, indubitability, infallibility, or aconceptual character of basic knowledge.

[50] Stroud (1983, 417), (1984a, 140–1), (1989, 35–6, 48–9).

[51] Stroud (1983, 417, 418, 419; 1984a, 146, 147, 148) recognizes this as Kant's strategy, but because he does not consider Kant's methods and arguments in any detail, of course he cannot find Kant's point persuasive. Stroud's formulations of global perceptual skepticism persistently disregard Kant's key strategy. I suspect this is due to Stroud's conviction that only transcendental idealism can support Kant's strategy, and due to his lack of attention (especially 1994a, 238) to the details of Kant's analysis of the transcendental – and ontological – conditions of time-determination. Much discussion of what Kant's transcendental proofs allegedly can or cannot prove is idle because it fails to address these issues about time-determination, or because it fails to identify precisely what kinds of skepticism Kant addresses in various phases of his analysis. On this latter point, see Bird (1989), Engstrom (1994).

This distinction is captured by Kant's requirements for genuine cognitive reference, involving both sensory intuition of spatiotemporal particulars and spatiotemporally schematized categories (above, §8). In short, Stroud's skeptical question is based on some portentous philosophical preconceptions; it is not at all the theoretically innocent query Stroud assumes it to be.[52] Stroud (1983, 415; cf. 433) admonishes those persuaded by Moore's response to skepticism for not having learned enough from Kant's first *Critique*. Stroud himself is subject to his own admonition. Despite his (1977a, 234–9; 1994a, 231) recognition of some of Kant's advances over Hume's theory of ideas, he has not grasped the significance of Kant's views about time-determination, not even those points Hume stumbled upon in his study (*T* I.iv.2; cf. above §§2.5, 3).

Sosa (1994, 273) charges that Stroud's conception of the epistemological project of explaining, for example, perceptual knowledge in general is internalist and inherently antiexternalist. Stroud (1994b, 299, 304) denies this. Sosa is correct, however, because (as noted above) Stroud's way of posing the generality involved in the epistemological quest precludes our relying on any particular piece of perceptual knowledge while trying to explain perceptual knowledge in general, and (Stroud 1989, 37–40) it precludes our relying on any bridge principles that are not part of the original sensory evidence base. Stroud's formulation of his complaint against externalism (1994b, 304) requires "individualism" in the sense criticized by Burge (1979, 1986), namely, that the contents of our beliefs can be understood fully without recourse to worldly states of affairs. This is to say, Stroud's complaints *assume* internalism about mental content. They also *assume*, without notice and without regard to Kant's arguments to the contrary (§65), that we can be self-conscious without being conscious of the spatiotemporal world. Stroud's complaints likewise overlook Kant's transcendental argument for (not "from") mental content externalism, based on the transcendental affinity of the sensory manifold (above, §§25, 27).

Stroud (1994a, 241) also assumes, fourth, that "everyone's fully reasonably believing" that *X* does not entail that *X* is true. Here is Stroud's infallibilism regarding empirical justification. This is a very skeptical assumption about what full rational justification could possibly be. These three Cartesian assumptions (not held even by Descartes about empirical knowledge) are standard, substantive assumptions of traditional skeptical fare, going back at least to Sextus Empiricus. If these assumptions appear innocent to

[52] Stroud (1989, 35; 1994b, 299; 1996, 349).

Stroud, then this clearly indicates Stroud's inherited, unacknowledged, unquestioned Cartesianism.

In these regards, Kant was radically anti-Cartesian. Kant is a fallibilist, both about empirical knowledge (A766–7/B794–5), and about the ultimately collective justification of our basic inventory of our cognitive capacities and consequent incapacities (O'Neill 1992). According to fallibilism, justification strongly indicates truth, though it does not entail it. (Sober fallibilist accounts of knowledge maintain the standard truth requirement of knowledge.) The only reason (such as it is) for assimilating skeptical to ordinary grounds of doubt, or for insisting that skeptical hypotheses pertain to the possibility of human empirical knowledge, is the presumption that epistemic justification consists solely in sound deductive proof. Infallibilism and deductivism are the twin assumptions of Cartesian skepticism. Kant rejects both of them, both in his account of transcendental knowledge and in his account of empirical knowledge.

Fifth, the skeptical scenarios foisted upon Kant make the very Cartesian assumption Kant rejected when he formulated his key question. The skeptical scenarios of global perceptual delusion take for granted that our "ideas" or mental representations are intrinsically representational, in the sense that they at least purport or appear to have representational content. Kant rejected this Cartesian assumption when he adopted sensationism, which led him to ask, "On what ground rests the relation of that in us which is called representation to the object?" (to Herz, 10:130; cf. A197/B242). The very portal to Kant's philosophy lies in recognizing that even apparent intentionality is a (complex) *result*, not an innocent, obvious, or allegedly indubitable starting point.

The continued fascination with these skeptical possibilities, I submit, belies a long-standing philosophical aversion to recognizing the ineluctable, indeed crucial roles played by various kinds of contingencies in human knowledge (cf. Stroud 1994a, 241; recall the impact of Gettier 1963). Otherwise philosophers would not be impressed in the way so many are with the fact that as a matter purely of logic, all our beliefs could be as they are, even if none of them were true or were justified (*e.g.*, Stroud 1994a, 241–2, 245). That this "logical" gap is regarded as so significant indicates the pervasive influence of the original antinaturalism of analytic philosophy, including its sharp distinction between "conceptual" and "empirical" issues (see above, §1.2). Yes, Kant claimed to demonstrate the necessary conditions for the very possibility of unified self-conscious experience. But Kant was wise enough to recognize that these necessities are conditional upon various logically contingent facts about our cognitive

capacities and circumstances, including the contingent but ubiquitous fact that our perceptual experience is typically caused by the object we think we perceive. Even Descartes sought to lead us to recognize our epistemic dependence on God and the stock of innate ideas of simple natures He graciously gave us (Westphal 1987–8, 108–9). In addition, Kant's strict necessities pertain to his proofs of the transcendental conditions of possible self-conscious human experience. These conditions, however, do not suffice for experience, which also requires a given matter of sensation displaying a minimal degree of recognizable regularity and variety; nor for empirical knowledge, for which Kant provides a fallibilist account of justification.

Moreover, Kant's cognitive semantics, based on his Schematism and his claim that objects can only be given to us in sensory intuition, show that he adopted a "relevant alternatives" epistemology long before the term came into use.[53] On Kant's semantics, the only cognitively significant sense of the term "hypothesis" is empirical and concerns causal explanations within the realm of spatiotemporal objects and events. Global skeptical "hypotheses" must rely solely on the unschematized pure concept of causal ground and consequent, and cannot be given a schematized causal sense. If they could, then they would be open to empirical examination, which they are in principle designed to evade. Skeptical hypotheses evade empirical examination at the cost of cognitive idleness. Hence they are "hypotheses" in name only. It is a deep philosophical irony that Kant's first *Critique* should put an end to metaphysical pretensions to transcendent metaphysical knowledge, only to have transcendent pretensions to profound empirical skepticism rise in their stead. Global perceptual skepticism requires human empirical knowledge to be based on inhuman cognitive capacities. Kant's new method of transcendental reflection, including "epistemic" reflection, enables and requires us to recognize our finite human cognitive capacities, capacities which suffice for genuine empirical knowledge, even though they do not suffice for deductivist pipe-dreams of infallibilist justification. Recognizing our human fallibility, both in cognition and in epistemology, should remove the appeal of merely logically possible alternatives to Kant's claim that our sensibility is passive, requiring stimulation by something outside ourselves. This augments the

[53] Stroud (1968, 242) overlooks this important point. Gram (1974, 316–17) objects that Kant's Schematism cannot serve to discriminate between causal and arbitrary temporal orders; because both kinds of order are temporal, they cannot be distinguished temporally. However, his use of the term "arbitrary" equivocates between elective, random, and chaotic; he fails to examine the *causal* differences involved in these orders; and he overlooks Kant's point in the Third Analogy (above, §36) that we can only be aware of any variety of things in space if those things causally interact.

support for Kant's claim about human sensibility, based as it is on epistemic reflection, and hence also augments support for the further externalist features of the Kantian account of empirical knowledge developed here.

63.5 *Epistemic reflection* contra *perceptual skepticism*

This study highlights the kind of epistemic reflection on our own cognitive capabilities and circumstances involved in certain central Kantian thought experiments, and how this reflection supports both the basic core of Kant's inventory of our human cognitive capabilities and the non-Cartesian strategy employed in Kant's Transcendental Analytic. Kant's thought experiments provide good grounds for showing that denying this basic inventory requires disavowing elementary facts about who we as cognizant human beings are and what we can do. Skeptics may profess to disavow these facts, but it is not incumbent on us to prove any further *to them* that they are gravely mistaken in so doing, nor is it incumbent on us to provide any further proof of the reality of our human knowledge about commonsense objects and events around us. Kant's epistemic reflections help us, if we but attend to them, to recognize that the alleged skeptical alternatives are not genuine human possibilities. If they are not genuine human possibilities, then they are not and cannot hold true of us. Hence they cast no genuine doubt on human empirical knowledge.

Near the end of the second *Critique* (5:146–8), Kant remarks on how well our cognitive capacities are suited to our moral vocation. He might also have remarked, what he surely believed, on how well they are suited to our commonsense and scientific inquiries. Global perceptual skeptics demand that our cognitive capacities be proven fit for any logically possible environment before trusting them in our actual environment of spatio-temporal objects and events. Kant was wise enough not to succumb to this sleight of hand. Kantian epistemic reflection can help us recognize and share his wisdom about this crucial issue. As long as perceptual "seemings" are assumed to be self-sufficient psychological states, and as long as any perceptual claim can be converted into a mere "seeming" by the skeptical retort, "Perhaps that is just how things seem to you; you may be mistaken," then global perceptual skepticism will of course seem invincible. The continued attraction of such arguments testifies to the abiding, deeply ingrained Cartesianism of so much twentieth-century philosophy. Here I must concur with Strawson's observation that

nearly two hundred years after they were made, [Kant's key insights] have still not been fully absorbed into the philosophical consciousness.[54]

The key insights Strawson stressed concern our ability to distinguish between the objective order of events and the subjective order of our experience of those events, and that this distinction is implicit in the concepts under which the contents of experience are brought.

Kant's epistemic reflections on human knowledge, and our cognitive capacities, are designed to enable us to realize that perceptual seemings (or analogously, pieces of linguistic behavior) are not self-sufficient conscious episodes. We cannot address this point second-person, and we cannot address it for our own case from a third-person standpoint. We can address it only on the basis of careful reanalysis of Kant's analysis of the conditions of possible self-conscious experience and of cognitive reference, and on careful epistemic reflection on our own manifold cognitive dependencies on the world in which we live. The real power of Kant's transcendental proofs is found in Kant's conjunction of philosophy of mind with his semantics of cognitive reference, not in the semantic ascent characteristic of analytic reconstructions of Kant's alleged arguments. Rorty (1971, 4–5, 9) is right that this latter approach to transcendental arguments can only yield much weaker "parasitism arguments" that can at most point out interconnections between certain pieces of linguistic behavior, but cannot establish epistemic conclusions about the truth-value of any basic beliefs that may be linguistically expressed.[55] By taking beliefs about ourselves or our world or by taking pieces of linguistic behavior as basic, too many recent discussions of Kant's epistemology have bypassed Kant's radical break with the Cartesian tradition, because they have failed to address, not merely Kant's answer, but his very question in his famous letter to

[54] Strawson (1966, 29). In personal correspondence (May 1, 1999) Strawson reaffirmed his assessment that Kant's insights still have not been adequately absorbed. Elsewhere Strawson (1997, 232–43) sketches a number of Kantian elements in contemporary philosophy. However, none of these Kantian elements in contemporary philosophy concern Kant's core issues presently under discussion.

[55] Rorty's assessment of the inconclusiveness of this kind of "transcendental" argument is substantiated by Grundmann (1994, especially 215), and by the "modesty" of many of the "transcendental" arguments considered in Stern (1999b; see his index for references). Similarly, Wilkerson (1970) opens by expelling Kant's "psychological apparatus" triumphantly from the Deduction, but can only find a plausible form of transcendental argument by introducing an unanalyzed notion of "material sufficiency" (1970, 209–12). Quite aside from the fact that Kant restricts his attention to those aspects of "material sufficiency" that can be known *a priori* (B25, A56/B80), certain conditions are "materially sufficient" – and materially *necessary* – for us to be self-conscious due to certain basic facts about our cognitive capacities, and consequent incapacities; these are revealed only through epistemic reflection.

Herz. Only careful epistemic reflection can give us a witting, rather than unwitting (cf. Stroud 1989, 47), understanding of our own empirical knowledge. If Cartesian skepticism still appears commonsensical, this indicates how little our most basic "method of thinking" has changed since Descartes published his *Meditations*. To that extent, our "present-day philosophical attitudes and preconceptions" are indeed long overdue for overhaul.

63.6 *Trumping cognitive command and best explanation*

Some of the significance of Kant's transcendental proofs, and of his changed method of thinking, may be highlighted by indicating its bearing on the current debate about "minimalism" and "realism" about truth. One key issue in this debate can be posed concisely by drawing on Crispin Wright's work. Wright distinguishes minimalism or deflationism about truth (in the form of the "correspondence platitude") from realist accounts of truth.[56] He contends that the burden of proof lies with the realist to go beyond the minimal notion of truth. The minimal notion of truth, which is neutral between realism and antirealism, he claims,

> regulates any statement-making practice which displays [this] interlocking set of characteristics [:] . . . [it] is disciplined by acknowledged standards of justification and justified criticism, . . . [it] has the syntax to be subjected to ordinary sentential logic, . . . [it] sustains embeddings within propositional attitudes, and . . . [within it] ignorance and error are possible categories of explanation of aberrant performances by its practitioners.[57]

Wright describes here some characteristics of a statement-making practice. There may be domains in which the requisite stability and structure of practice Wright describes may not require more than the minimal notion of truth, and so would not justify a realist correspondence notion of truth (in that domain). Wright contends that the proper initial attitude to take about truth is the parsimonious minimal (anti- or nonrealist) view; minimalism suffices until proven otherwise.[58]

[56] A preliminary version of his account appears in Wright (1993); a much fuller discussion appears in Wright (1992).

[57] Wright (1993, 69). This is his most succinct statement of his "minimal" view of truth. Cf. Wright (1992, 74–6, 140).

[58] Wright (1992, 149–50; 1993, 69).

Wright considers two features of a discourse that would require transcending minimalism and adopting realism: "Cognitive Command" and "Best Explanation." "Cognitive Command," roughly, is the *a priori* requirement that, waiving certain understandable and remediable causes of disagreement, differences of opinion within some domain must be explained in terms of some sort of cognitive deficiency of at least one of the parties to the dispute.[59] "Best Explanation" of the relevant sort comes in two forms. At the least, if the best explanation of true beliefs registered in a discourse must cite "truth-conferring states of affairs," then realism is required in that domain of discourse. Better yet, those truth-conferring states of affairs may have a "wide cosmological role" because they enter into explanations, not only of our true beliefs about them, but also into explanations of many other phenomena. Such a wide cosmological role requires realism in that domain of discourse.[60] Wright recognizes that this strong condition is met in the case of perceptible objects and events in our environment.[61] This is correct.

However, Wright's (1992, 192) discussion shows that the kinds of "explanations" he considers are scientific, or at least empirical explanations. The requirement of "Best Explanation" is not an *a priori* requirement (1992, 186). Even the *a priori* constraint involved in "Cognitive Command" concerns a putative necessary constraint on the explanation of divergent *outcomes* of inquiry. Both of Wright's constraints are *ex post facto* with respect to formulating and undertaking an investigation. This reveals a lingering Cartesianism in Wright's minimalism about truth. Descartes assumes his thinking activity and his ideas as objects of thought and seeks to determine which of those thoughts might be or are true. Analogously, Wright assumes that we are self-conscious enough to engage in various forms of discourse, well enough that we can then consider the question whether any of these forms require either minimalism or realism about truth in that domain. Neither Descartes nor Wright considers Kant's Critical question: What *a priori* conceptual, sensory, and ontological conditions must hold such that I can think or speak or be self-conscious at all? Obviously Descartes was right that one must exist as a thinker to be self-conscious. Kant's transcendental analysis and arguments – when pursued

[59] Wright (1992, 144–6).

[60] Wright (1992, 182, 189, 196–8; 1993, 73).

[61] Wright (1993, 76–7, 82); cf. (1992, 199). This line of argument is developed in detail by Ian McFetridge (1993), who presents a splendid critique of Dummett. It is also endorsed by Johnston (1993, 95). At first glance this kind of argument may appear viciously circular, but if it is properly constructed it need not be. See Alston (1989).

thoroughly, to the point where they are understood to undermine Kant's transcendental idealism – show that we human beings cannot think, and so cannot be self-conscious – certainly not of our empirically determined existence – at all, unless we perceive and to some extent identify both varieties and regularities, including causal regularities, among the objects and events we experience in space and time. This dependence of human thought on the recognizable characteristics of things around us shows that our statement-making practices about them require realism, including a correspondence analysis of truth, about such objects. Without the general stability and identifiability of things and events in our environment, our commonsense practices of describing, referring to, and engaging with objects (in part through our language) would not be possible as stable practices in the way required by Wright's minimalism about truth (quoted above). Obtaining this result does not require determining the best philosophical interpretation of the outcomes of various lines of inquiry. Kant's transcendental analyses and proofs show that we – as the human beings we are – could not possibly wonder about the sources of our sensory experience, or about our grasp of common facts, or the truth (or other suitability) of our utterances, if we were not generally able to identify objects and events in our environment.

To suppose that we could have the sophisticated intellectual practices indicated in Wright's minimalist conception of truth, and that we still could have an open question about commonsense realism, is to suppose that human thought is radically independent of objects in our natural environment. This requires strong internalism about mental content, of just the sort Descartes, Hume, and Stroud assumed. Kant's transcendental proofs of the affinity of the sensory manifold, of the transcendental conditions for determining empirically our existence, and of the causal structure of molar objects and events, show that this supposition is radically mistaken. The pervasiveness of this kind of supposition in contemporary philosophical discussion shows how Cartesian much of contemporary semantics and epistemology has remained, official disavowals not withstanding. If we are *able* to use the truth-predicate in Wright's "minimal" sense, we are *entitled* to use it in his "realist" sense, at least regarding molar objects and events. This is because, as Kant saw, "inner experience in general is only possible through outer experience in general." This is because we human beings are only capable of thinking even about apparent particulars if we in fact experience a commonsense world of causally interacting real objects and events that are naturally structured by identifiable similarities and differences.

64 CONCLUSION

Fallibilism is widely believed to cut off global perceptual skepticism, or rather to dispense with it. This often suggests that fallibilism also dispenses with transcendental analysis and proof of the kind advanced in this study. My discussion of, *inter alia*, minimalism about truth shows that these views are ill-considered. A detailed internal critique of Kant's transcendental idealist attempt to prove apodictically that our causal judgments are legitimate provides strong grounds for adopting fallibilism.[62] I have argued that genuine transcendental proof can be conjoined with fallibilist accounts of justification, that it can refute global perceptual skepticism about human knowledge, and that it greatly illuminates a wide variety of philosophical issues discussed in this study.

Chapter 1 began with Kant's "new way of thinking," his non-Cartesian method of transcendental reflection and the "epistemic reflection" he uses to promote our recognition of our basic cognitive capacities and incapacities. Kant's inventory of our basic cognitive capacities and incapacities is crucial for delimiting the relevant range of theories of *human* empirical knowledge, and conversely, for delimiting the relevant range of genuine (as opposed to transcendent) doubts about human knowledge (chapters 1, 7). Reflecting transcendentally on our human forms of sensibility (in chapter 2) reveals three key points: (1) our sensibility is passive, and so requires stimulation by objects other than ourselves; (2) we are only capable of singular presentation of, and of singular cognitive reference to sensed, spatiotemporal objects and events; and (3) although our pure *a priori* Categories have a transcendental significance rooted in our basic forms of logical-*cum*-cognitive judgment, our Categories only have full and determinate meaning (affording determinate reference to particulars) when conjoined with sensory intuition of particulars (Kant's semantics of cognitive reference).

Reanalyzing Kant's account of the transcendental affinity of the sensory manifold (chapter 3) provides a genuine transcendental proof that any world in which we can be self-conscious is one in which there are recognizable regularities, both similarities and differences, among the contents of our sensations, which are due to corresponding regularities among the objects and events that appear to us. Kant's analysis of transcendental affinity is in fact a transcendental argument for mental content externalism. (Briefly,

[62] As does a rigorous examination of Descartes's project; see Westphal (1987–8).

transcendental chaos obviates the possibility of self-conscious human experience; whether such chaos reigns is a function of the world in which we live.) This argument supports Kant's claim that our sensibility is passive, and it suffices to refute several prominent arguments against realism, including Kant's, Carnap's, and Putnam's.

Reexamining Kant's attempts to prove that every event has a cause – the general or "transcendental" causal principle – (in chapter 4) showed that causal judgments are discriminatory, and can only be made about spatio-temporal objects or events. The three principles defended in the Analogies of Experience form an integral set; we can only identify any one causal relation, whether between two features of the same object or between distinct objects, by discriminating changes of place from changes of state (whether minor or major), which in turn requires identifying objects and events located in our surroundings. Justifying the legitimacy of such causal judgments requires justifying the specific, "metaphysical" causal thesis that every physical event has an external material cause. Only in connection with physical events can we legitimately use the transcendental causal thesis, that every event has a cause, though only in the form of the specific, "metaphysical" causal thesis (chapters 5–7). Taken together, these doctrines provide a transcendental proof of realism *sans phrase* regarding molar objects and events in our environs (§65). This is a second, genuinely transcendental argument *for* mental content externalism. This argument further supports Kant's claim that our form of sensibility is passive, and augments Kant's transcendental argument for mental content externalism. Taken together with Kant's semantics of cognitive reference, this argument refutes global perceptual skepticism (§63).

Justifying these conclusions requires no appeal to Kant's transcendental idealism. On the contrary, Kant's analysis of the transcendental affinity of the sensory manifold refutes transcendental idealism and reveals the key flaw in Kant's arguments for it (a coherent neglected alternative), all on principles internal to Kant's transcendental analysis of the necessary conditions for integrated self-conscious human experience (chapter 3). Moreover, transcendental idealism cannot justify the specific, metaphysical causal thesis (chapters 5, 6), nor is it required to defend the possibility of free human action (chapter 7). Kant's vaunted claims for his innovative idealism are all unfounded. Critical reflection on the sophistication of Kant's analysis together with the failures of transcendental idealism corroborate and reinforce the conclusions drawn in this study, that Kant's lingering aspirations to "apodictic" proofs in metaphysics must be rejected, that the fallibilist elements of Kant's philosophical method and of his

theory of empirical knowledge are correct, and that they further discredit lingering Cartesian predilections towards global perceptual skepticism (chapter 7).

Though intricate, genuine transcendental proofs can establish realism *sans phrase* about molar objects and events in our environs. Indeed, Kant's most important transcendental proofs can be improved and put to precisely this key philosophical use. Perhaps, as Nietzsche said, it was Kant's joke to defend the beliefs of the common man in terms the common man could never understand. However, philosophers have long ago lost their commonsense innocence, and have enormously important lessons to learn from Kant. We are still far from plumbing the depths of what Strawson (1997, 237) called "the most capacious mind . . . that has ever dedicated itself to philosophy." I hope that this study brings us closer to understanding and appreciating some of Kant's revolutionary achievements, and especially his "changed method of thinking" – transcendental and epistemic reflection – without which his achievements can be neither understood nor assessed. Continued vexation in contemporary philosophy over issues Kant addressed so profoundly suggests that our "present-day philosophical attitudes and preconceptions" require fundamental rethinking, of just the kind Kant initiated.

Appendix

65 SUMMARY OF KANT'S TRANSCENDENTAL PROOF OF THE LEGITIMACY OF CAUSAL JUDGMENTS.

For reasons stated in the Introduction, this study has discussed only the necessary minimum about Kant's Transcendental Deduction. Likewise, it has said only the necessary minimum about Kant's analysis of the role of causal judgment in time-determination in the Analogies. This crucial topic has been greatly clarified in available literature.[1] Presently what I can add to it I have added in the foregoing. Adding significantly to it requires thoroughly rethinking Kant's Deduction and Analogies in the ways indicated in the Introduction. However, readers who do not have these issues fresh in mind may be helped by a very brief summary of the main line of Kant's transcendental justification of causal judgments. I offer this summary here as a guide for reflection; it is not, as it stands, a sound argument. I gratefully acknowledge that it is based on a briefer summary for undergraduates developed by Keith Yandell.

Kant's opponent in this argument is "material idealism . . . the theory which declares the existence of objects in space outside us either to be merely doubtful and indemonstrable or to be false and impossible" (B274). Kant names Descartes and Berkeley, though Hume belongs here too. Kant aims to show that unless we can and do make at least some justified causal judgments about physical objects, we could not be aware of so much as an apparent temporal sequence of apparent events. Put otherwise, Kant contends that we must be aware of and have some knowledge of at least some physical objects or events in order for us to be aware of any series of objects of thought or imagination.

The principal texts for this reconstruction are Hume's *Treatise* (I.iv §2, "Of Scepticism with regard to the senses") and Kant's "Transcendental Deduction,"

[1] Hume, *T* 187–225, Wolff (1966), Smith (1941), 465–94, Beck (1978b, 1978c), Strawson (1970, 1979), Milmed (1969), Guyer, *Claims*, 207–329, (1992), Baum (1986), Howell (1992), Keller (1998), Greenberg (2001), Melnick (1989).

"Refutation of Empirical Idealism," and "Analogies of Experience." This version of the argument does not rely on Kant's arguments for Transcendental Idealism. This advantageous, for those arguments fail. Hence this reconstruction sketches a transcendental argument for realism *sans phrase*.

65.1 *Preliminary considerations*

(A) Parsimony alone lacks explanatory value.
(B) Hume was not skeptical enough; he simply assumes that:

  (i) impressions can be observed to exist.
  (ii) impressions can be identified.
  (iii) impressions can be named.
  (iv) temporal ordering is a brute fact of experience; in particular:
  (v) events can be distinguished from objects.

(C) Because impressions are exactly what they seem to be, they can have no dispositional properties, and hence no causal properties. Nor can they be related in ways stronger than Hume identified: contiguity, resemblance, and 1:1 correlation.

{Dispositional properties would introduce counterfactual relations within and between impressions about which we easily could be mistaken, in part because they may not be manifest, and cannot be entirely manifest, at the moment we have an impression. Hume's impressions are "Heraclitean"; any apparent change of quality is in fact a change between numerically distinct impressions. Hence no impression can have a disposition to manifest one characteristic in some circumstances and another in different circumstances (triggering conditions).}

65.2 *Summary of Kant's argument*

(1) Each of us is conscious of our own existence as determined in time. That is, we are aware of ourselves as being aware of some things (in a broad, noncommittal sense of "things") as happening before, along with, and after others. (B275)

{Hume's experience of the porter delivering a letter to him in his second-floor study (*T* I.iv.2) shows that he, too, is committed to this premise. Likewise, any presumed skeptic who refuses to answer the question, "What did you just say?", causes trouble without posing a philosophical challenge.}

(2) The kind of awareness indicated in (1) is self-conscious experience, and the "things" experienced are objects (in a broad, noncommittal sense of "objects") of our experience.

(3) One can be *self*-conscious only if one can distinguish oneself from something of which one is conscious.

{One might have sensations without being self-conscious (A90–91/B122–23, A111–12, A116–17), but one can't be self-consciously aware of anything through those states unless one can identify oneself, and so can identify oneself as the conscious subject who at least senses something. Being self-conscious requires distinguishing oneself from what one experiences in order for you to be able to think that *you* have experience *of it* (self-ascription; above, §§ 2.3, 3, cf. §§ 22, 23). The relevant states of consciousness are those Hume identified as impressions of sense, not impressions of reflection, such as pains, pleasures, or passions. Here the "something" of which one is aware is understood as an object of thought, *per* (1).}

(4) One can distinguish between oneself and something of which one is aware only if one can identify that of which one is aware.

(5) One can identify something (as an object of self-conscious awareness) only if one both correctly characterizes it and correctly locates it in space and time.

{"Correctly" does not entail "precisely." (5) is supported by Hume's problems in his study (*T* I.iv.2) and by Kant's semantics of cognitive reference and account of perceptual synthesis. Recall Kant's warning against conflating sensation and conception, and his recognition of "binding problems" (above, §§ 7, 22.2–22.4, 23).}

(6) Correctly characterizing something and locating it in space and time requires being *able* to correctly characterize and locate it in space and time.

(7) The order of apprehension of the objects of experience is always successive, regardless of whether the objects experienced are simultaneous or successive.

{*I.e.*: We cannot, on Humean grounds alone – as we are supposed, on those grounds, to be able to – distinguish between the following three accounts

of the experience of a blue dot on a white field being succeeded by a red dot on a white field:

(a) A blue impression being replaced by a red impression.
(b) A ball, blue on one side, being instantaneously rotated to reveal its red side.
(c) A blue ball being transformed into a red disk.}

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(8) Our apprehension does not, of itself, reveal the objective order of events; the temporal order of the objects (broadly speaking) of experience is not given simply by the successive apprehensions of experience. (From (6), (7); *cf.* A182/B225, B219, B226, A194/B243, B257.)

(9) Time itself is not an object of possible experience. (A172–73/B214, A188/B231)

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(10) Temporal order cannot be determined by reference to time itself. (from (9); cf. A182/B225, A183/B226, A215/B263, B219, B233, B277.)

(11) Space itself is not an object of possible experience. (A172–3/B214, A214/B261, A487/B515)

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(12) Spatial order cannot be determined by reference to space itself. (from (11).)

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(13) In order to be able to identify changes of state, local motions, translational motions, and radical transformations of substance, one must be able to discriminate each of these potential kinds of change from each of the others in any particular case. (From (8), (10), (12); cf. above, §§ 2.5, 36)

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(14) In order to be able to discriminate among the potential kinds of change indicated in (7) and (13) in any particular case, one must be able to reconstruct the spatial order of events by distinguishing it from apparent spatial locations (one's subjective order of spatial apprehension). (from (8), (13).)

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(15) In order to be able to locate objects of experience in time (as occurring before, concurrently with, or after others), one must be able to distinguish one's subjective order of apprehension of the objects of experience from the objective, spatial and temporal order of the world. (from (5), (7), (8), (14).)

(16) If one can distinguish between one's subjective (spatial and temporal) order of apprehension and the objective order of events in space and time then there *is* an objective order of events in space and time.

(17) SUB-ARGUMENT Kant by *reductio ad absurdum* to show that there are rule-governed relations among appearances, to support (16) and the antecedents of (18), (19); (A194–5/B239–40, *cf.* A112 and above §§ 22, 23):

(i) Suppose: there is nothing antecedent to an event appearance, upon which it follows according to a rule.

(ii) All succession of perception would be only in apprehension (*i.e.* it would be merely subjective), and would disable us from ever determining objectively which perceptions really precede and which follow.

(iii) The relations between any two appearances (which would only be distinguishable, if at all, on the basis of apparent sense-content) would be the same.

(iv) We would be without criteria for grouping our representations together. We would be without criteria for identifying objects and events.

(v) The succession in our apprehension would always be the same.
&
(vi) There would be nothing in the appearances which so determine it that a certain sequence is rendered objectively necessary.

(vii) We would have a play of representations relating to no object.

(viii) That we are even putatively aware of objects or events entails that there are rule-governed relations among appearances. (∼(i))

(18) If there is an objective order of events then things determine their own sequence in time and their own locations and motions in space. (*cf.* A199/B244)

(19) If things determine their own order in time and space then those things are causally related, so that the antecedent of an event contains the condition of a rule upon which necessarily follows the event. (from (17), (18); A144/B183, A189, A191/B236, A195/B240, A198/B243.)

(20) If something contains such a condition of such a rule then that thing is a substance, that is, an enduring thing having properties, some of which are dispositional and causal. (*cf.* B183, A183–84/B226–27, A204/B249, and Preliminary Consideration (C).)

{Here the "things" in a broad, non-committal sense used in (1) are given a very committed interpretation, in opposition to Hume's impressions and collections thereof.}

(21) If one can identify events as occurring before, during or after others, then one is able to recognize the objective order of events, that is, to construct knowledge of the objective order of events on the basis of one's experience. (From (4)–(6), (15), (20).)

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(22) One can distinguish the subjective order of apprehension of things from the objective order of the world only if one can correctly use object concepts to identify what one experiences; that is, only if one can distinguish the three different kinds of accounts of the experience described in (7) by using concepts of substance, cause, and event (rule-governed succession) to judge what one experiences. (From (21); *cf.* A195/B240, A199–200/B244–245, and above § 36.)

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(23) The conditions for the possibility of self-conscious human experience (of identifying our consciousness "as determined in time" (1)) are likewise the conditions for the possibility of knowledge of objects, among which are that physical objects (perceptible, spatiotemporal, causally interacting substances) exist and that one perceives and identifies at least some of them. (From (3)–(6), (22); *cf.* A111, B275, B276.)

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(24) If a human being is self-conscious, then that person perceives and has at least some knowledge of spatio-temporal, causally active substances in his or her environs. (From (1), (23).)

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Index of names

Adickes, Erich, 141, 189, 190, 193, 224
Allison, Henry, 4, 5, 15, 37, 55, 58, 60, 62, 69–71, 73, 79, 83–84, 87, 110, 115, 116, 117–18, 120–25, 229–30, 232, 242
Alston, William, 264
Ameriks, Karl, 140, 161
Aquila, Richard, 68
Aristotle, 149, 207

Baum, Manfred, 1, 30
Baumgarten, Alexander, 63
Beck, Jakob S., 39, 191, 192
Beck, Lewis White, 6, 66
Bell, David, 2
Bennett, Jonathan, 12, 28–29, 55
Berkeley, George, Bishop of Cloyne, 60, 98, 111, 112, 130, 135, 231, 269
Bird, Graham, 4, 39
Black, Joseph, 149
Bowwsma, O. K., 254
Brittan, Gordon, 125, 150, 207
Broad, C. D., 113
Brueckner, Anthony, 13, 116
Buchdahl, Gerd, 4, 15, 40, 41, 42, 58, 62, 70, 79, 80, 116, 117, 143
Burge, Tyler, 258

Caird, Edward, 148
Carnap, Rudolf, 126, 248, 267
Carrier, Martin, 150
Cassam, Quassim, 28, 252
Coffa, J. Alberto, 45, 253
Cordemoy, Géraud de, 149
Cramer, Konrad, 131, 140, 159
Crusius, Christian August, 83

Darwin, Charles, 84
Descartes, René, 13, 14, 22, 74, 83, 149, 150, 151, 154, 245–46, 254, 258, 260, 263, 264, 265, 266, 269; *also see* Cartesianism, skepticism, philosophy of mind
Dretske, Frederick, 251
Dummett, Michael, 264
Duncan, Howard, 204

Edwards, B. Jeffrey, 71, 101, 133, 149, 223
Ellington, James, 235

Falkenstein, Lorne, 20
Faraday, Michael, 151
Fichte, Johann Gottlieb, 39
Förster, Eckart, 128, 129, 130, 132–36, 139, 167, 172, 175, 190, 223, 224, 226, 242, 255
Friedman, Michael, 150, 174, 206, 212

George, Rolf, 45
Gettier, Edmund, 20, 259
Geulincx, Arnold, 149
Gloy, Karen, 132
Gram, Moltke, 14, 28, 30, 118
Gründer, Karlfried, 133
Grundmann, Thomas, 262
Guyer, Paul, 4, 6, 79, 121, 123, 124, 137, 148, 154, 156, 167, 240

Hanna, Robert, 1, 20
Harper, William, 33
Harrison, Ross, 70
Hegel, G. W. F., 89
Heraclitus, 148
Herz, Marcus, 45, 263
Hintikka, Jaakko, 30
Howell, Robert, 13, 21, 73
Hume, David, 6, 8, 13, 18, 21, 22, 25, 26–29, 32, 33, 63, 68, 71, 72–75, 77, 89, 93, 97, 102, 110, 111, 112, 114, 127, 148, 152–53, 156, 160, 231, 247, 251, 258, 265, 269, 270, 271, 274
  custom, 72
  impressions, 18, 21, 22, 28, 60, 74, 148, 251, 258, 270–74
  natural regularities, 73
  porter, study, 27, 28, 32, 247, 258
  also see skepticism
Husserl, Edmund, 133
Huygens, Christian, 150

Jacobi, Friedrich Heinrich, 5, 39, 40, 41, 117
Johnston, Mark, 264

Kästner, A. G., 189
Kitcher, Patricia, 33
Körner, Stephen, 12, 16, 28, 255
Kraus, Christian Jacob, 242

La Forge, Louis de, 149
Lambert, Johann Heinrich, 129
Landau, Albert, 189
LaPlace, Pierre Simon de, 241
Lavoisier, Antoine Laurent, 149
Leibniz, Gottfried W., 63–64, 119, 142, 148, 149, 152, 153, 213, 231, 240, 246
Lichtenberg, Georg Christoph, 189
Locke, John, 60, 74

Malbranche, Nicolas de, 149, 231
Mayer, J. T., 189
McCall, James, 185
McCulloch, Gregory, 116
McFetridge, Ian, 264
Meerbote, Ralf, 237
Mellin, G. S. A., 133
Melnick, Arthur, 19, 137, 242, 253
Mendelssohn, Moses, 63
Mill, John Stuart, 18
Moore, George Edward, 258

Newton, Sir Isaac, 119, 144, 149, 150, 151, 154, 176, 196, 206, 215; *also see* Mechanics, Newtonian
Nietzsche, Friedrich, 268

Paton, Herbert J., 15, 51, 66, 79, 113, 116, 132, 148, 164, 166
Peirce, Charles Saunders, 94
Perkins, Mooreland, 251
Pippin, Robert, 70, 80
Plaass, Peter, 132
Posy, Carl, 252
Prauss, Gerold, 4, 15, 40, 52, 58, 62, 116, 117
Priestly, Joseph, 149
Putnam, Hilary, 71, 126, 248, 267

Reid, Thomas, 133
Ritter, Joachim, 133
Robinson, Hoke, 60
Rorty, Richard, 14, 15, 25, 28, 29, 30, 33, 252, 256, 262
Rosenberg, Jay, 1, 28

Sandberg, Eric, 43, 50, 51, 65
Schrader, George, 39
Schultz, Johann, 63
Schulze, Gottlob Ernst, 39
Sellars, Wilfrid, 56, 251
Sextus Empiricus, 251, 258
Smith, Norman Kemp, 45, 80, 113
Sosa, Ernest, 258
Spinoza, Baruch, 153, 160, 161, 164, 240
Stahl, Georg Ernst, 149
Stern, Robert, 28, 262
Strawson, Sir Peter, 1, 4, 5, 14, 15, 28, 37, 40, 42–43, 51, 53, 56, 65, 69, 117, 256, 261–62, 268
Stroud, Barry, 1, 3, 12–13, 28, 29, 30, 69, 250, 251, 252, 253, 255–61, 263, 265

Tetens, Johann, 133
Trendelenburg, Friedrich Adolph, 121
Tuschling, Burkhard, 128, 129–30, 167, 185–86, 189, 224

Ulrich, Johann August Heinrich, 242

Vaihinger, Hans, 38–39
Van Cleve, James, 142, 143, 165, 172, 214

Walker, R. C. S., 250
Walsh, W. H., 73
Waschkies, Hans-Joachim, 150
Washburn, Michael, 130
Weierstrass, Karl, 196
Wilkerson, T. E., 262
Will, Frederick L., 102, 255
Wittgenstein, Ludwig, 29–30, 254
Wolff, Christian, 133, 222
Wolff, Michael, 11, 15, 253, 255
Wolff, Robert Paul, 73, 232, 234–35
Wood, Allen, 55, 237
Wright, Crispin, 263–66

Yandell, Keith, 269
Young, Michael, 46

Index of subjects

action at a distance, *see* causality
actuality, category of, *see* Categories, actuality
Aesthetic, Transcendental, *see* transcendental
aether, 161, 200; *see also* plenum, dynamic
affection, double, 38–39, 54, 58, 116; empirical, 177, 225–26, 243; transcendental, 4, 38, 41, 49, 52–55, 66, 116–18; *see also* causality, noumenal
affinity, kinds of, 91–92; transcendental, of sensory manifold, 5, 10, 30, 33, 34, 68–123, 248, 256, 265, 266, 267, *defined*, 23–24, 104, 105; cinnabar, 102–03, 104; entails mental content externalism, 3, 6, 10, 249, 267; grounded by object, 24, 92, 105, 107, 110–16; *see also* transcendental chaos
agency, human, 5, 8–9, 10, 35, 228, *see also* freedom; analogy, argument from, for other minds, 65, 212, 218, 238, 239; *arbitrium brutum versus arbitrium sensitivum liberum*, 229–230; behavior, bodily, 237, 241; causal explanation of actions, 61–62, 218, 229–39; compatibilism, 63, 230; deliberation, 230; empirical character, 238, 240; *Gesinnung* 65, cf. 238–40; Incorporation Thesis (Allison), 62, 229, 231, 237; motives, 230, 241, non-sufficient determination by –, 231; practical reason, 37, 41, 64–65, efficacy of –, 41, 42, 61–63, primacy over theoretical reason, 63, 230, *see also* determinism, psychological; soul, physiology of, *see* inner sense, physiology of; regulative idea of, 238–240
Amphiboly of the Concepts of Reflection, 142–43, 213
Analogies of Experience, 6, 76–77, 123, 124, 128, 129, 131, 132, 136, 137, 146–66, 171–72, 216, 220, 230, 231, 237–38, 245, 269; integrity of, 6, 9, 25–32, 34, 133, 147, 152–57, 159–60, 209, 228, 231, 232, 236, 247, 267; metaphysical presuppositions of, 157–72, 225; regulative and constitutive character of, 146, cf. 91–92, 237–38; Second Analogy, 6, 60, 82, 135, 153, 156, 209, 229, 234, 245, 254; Third Analogy, 80–81, 148, 149, 151–53, 166, 209, 260; time determination, *see* time
analogy, argument from, for other minds, *see* agency
analyticity, 1
anti-Cartesianism, 2, 9, 259, cf. 261, 262, 266
anti-naturalism, 2, 259
Anthropology, 239
Anticipations of Perception, 135
Antinomies of Pure Reason, First, 118; Third, 229, 238–42, antithesis, 240
appearances, 108–09, *see also* phenomena, affinity; form *versus* matter of, 111; permanent in, 136, 233; supersensible basis of, 41–42, *see also* perception; *Vorstellungsarten*, 116
apperception, transcendental unity of, 4, 5, 21–25, 69, 72, 76, 80, 81, 88, 94, 96, 97, 100, 103–05, 107, 109, 113, 114, 167, 169, 170, 259, cf. 74, 91; *see also* self-ascription, Transcendental Deduction
arbitrium, *see* agency
Architechtonic of Pure Reason, 170
argument, abductive, 94; by analogy, for other minds, *see* agency; *modus tollens*, 96; *see also* logic; knowledge, proof
ascent, semantic, 262
attitudes, present day philosophical, 1, 268; *see also* cartesianism

behavior, bodily, *see* agency; linguistic, 257, 262, 270
best explanation, *see* argument, abductive; truth
billiard balls, 211; recalcitrant, 210, 211–12, 217–19, 244
binding problem, *see* perception
biology, natural science of, 141, 209, 237; blade of grass, 237; *see also* life, hylozoism

capacities, key cognitive, 3, 12–15, 18, 80, 250, 256, 266
  inner sense (form of, is time), 19, 20, 22, 26, 27, 29, 32, 50, 52, 55, 56, 57–58, 60, 62, 63–64, 66, 77, 90, 108, 119, 134, 135, 136, 140, 154–55, 171, 176, 202, 203, 232, 233, 234, 235–36, 243, 244; objects of –, *versus*

capacities, key cognitive, (cont.)
objects of apperception, 234; physiology of, 135–36, 141, 176, 232;
intuition, forms of, 56; space, time, 18–20, 26, 52, 203, 204, 211, 216, 223, 244, 266; spatial, temporal, 78–79, 81–82, 119–21, 244;
inventory of, 15, 18, 249, 261, 266, *see also* reflection, epistemic;
outer sense, 18–21, 219; reality of, how to prove, 3; priority of, 130, 134–37; *see also* idealism, Refutation of; causal judgment, restricted to spatio-temporal objects;
sensibility, 12, 13, 21, 32, 34, 86; in general, 44, 134; passivity of, 5, 32, 34, 49, 52, 54, 251–52, 260, 266; *see also* sensation, sensationism;
understanding, 12, 13, 23, 92–97, 103–04, cf. 105; *see also* categories, judgment, judgments
Cartesian, *see* Descartes
Cartesianism, 13, 14, 15, 61, 116, 219, 258–59, 261, 264, 265, 268; *see also* anti-Cartesianism; justification, infallibilist; mental content internalism; mind; skepticism
category, categories, 79, 179, 201, 203, 204, 216, 249, 252, 266; actuality, 58–59; cause, 27, 53, 79, 167, 249, *see also* causal, cause, causality; logical significance of –, 50, cf. 44; Metaphysical Deduction of –, 43–44; possibility, 210; pure *a priori*, 27; rules of synthesis, 43–44; Schematism of, 4, 43, 47, 48, 130, 131, 132, 133, 134–35, 136, 141, 168, 252, 260; substance, 27–28, 79, 89, 145, 233, 234, 249, schema of –, 136; Table of –, 46, 50, 129, 152, 157, 174, 177, 180, 222, 223; titles to concepts, 43; transcendental content of, *see* cognitive reference, semantics of
causal, interaction, mutual, 25–26, 31, 80–81, 136–37, 147, 148–57, 158, 161, 163, 165, 169, 181, 226, 235, 247, 257; *see also* causality, *Gemeinschaft*, transeunt;
– judgment, 6, 8, 9–10, 28–31, 34–35, 40, 41, 127–28, 129, 130, 134, 136–37, 140, 156, 159, 165, 166–69, 172, 173, 202, 205, 207, 208, 220–21, 223, 225, 228, 243, 244, 245, 247–48, 249, 266–67, 269–74, restricted to spatio-temporal objects, 9, 62, 126, 136–37, 230–38, discriminatory character of, 19, 26, 30–32, 33, 80–81, 154–56, 157, 236, 247–48, 267, 273, justification of, 10, 25–32, 146–57, 228–29, 244–48, 250–68, summary, 269–274, *see also* causality, skepticism, Analogies of Experience; not justified by transcendental idealism, 38, 172, 210–23;
– locutions, 238, 240, 243; – necessity, idea of, 153; – regularities, strict universality of, 104; – relations, cannot be known by conceptual analysis, 75, 76–77; – structure of molar objects, 248, 265, 269–74, *see also* causal judgment, justification of; world
causality, action at a distance, 150, 204; dispositional properties, 28, 270, triggering conditions of, 143, 270; external –, *see* causality, transeunt; cause, foreign; form of causal changes, 216, 217; *Gemeinschaft*, *communio versus commercium*, 151, *see also* causality, transeunt;
metaphysical principle (or specific thesis) of, 7, 10, 34, 129, 130, 134, 158, 165; Kant's arguments for, 142–45, 206–14; flaws in, 7–8, 143–44, 157–58, 165–66, 185–89, 209–21; transcendental justification for, 244–48, 267; *see also* causality, transeunt;
noumenal, 4, 5, 38–42, 52–56, 61–67, *see also* affection, transcendental;
occasionalism, 149, 152–54, 156, 161, 231, 245–46, 254;
physical influx, 153;
principles of, transcendental (general) *versus* metaphysical (specific), 7, 128–29, 131, 138, 159, 170–72, 225, 244, 245;
transcendental principle (or general thesis) of, 144, 165, 208, 267; cognitive transcendence of, 244–48
transeunt, 10, 144–48, 151–57, 161, 209, 247, *defined* 26, 152, *see also Gemeinschaft*, metaphysical principle of causality;
Kant's examples of, 165; house, 60, 148, 155; magnetism, 220, 239; ship, 113, 148
cause, concept of, 27, 73–75, 84, 97, 99, *see also* category, cause; causality, principles of; divine, *see* cause, foreign; God; foreign, 153, 154, 245, 246
censors, Prussian, 63
chaos, transcendental, *see* transcendental chaos
character, human, *see* agency
chemistry, 149, 150, 151
chronometry, see time
cinnabar, *see* affinity, transcendental
cognitive command, *see* truth
cognitive reference, Kant's semantics of, 2, 3, 5, 10, 34, 43–52, 64–65, 133, 134, 154, 156, 228–29, 236, 244, 245–47, 249, 250–53, 260, 262, 266; does not require transcendental idealism, 78–79, 244; key question of (to Herz), 45, 259; propositional *versus* cognitive

significance, 47–52, 252; singular, 244, 246, 252–53, 266, descriptions, definite, 78–79, 252; practical grounds for, 53, 64–65, *see also* agency, argument by analogy; verificationist interpretation of, 42–43, 248–49, 252
compatibilism, 62–63, 230
concept, concepts, *a priori*, 27–28, 29, 84–85, 89, 249, pure –, *defined*, 27, *see also* category; empirical, Critical definition of, 140, 158–59, 216–17, use in transcendental analysis, 158, 216–17, *see also* empiricism, concept; innate ideas, 15, 83, 260; issues, conceptual *versus* empirical, 2, 259; – possession, 29; problematic –, 62, 65, 230, *defined*, 62; rationalism about, *see* concepts, *a priori*
conditions, triggering, *see* causality, dispositions
Copernican revolution, Kant's, 58
creation, 153, 245–46; *see also* cause, foreign; God
Critical System, critique, *defined* 170; gap in, 7, 10, 126, 127, 130, 159–160, 172, 206, 223, 224, 244; system of pure reason, 170; systematic character of, 7, 8, 37, 129–32, 170; systematic failures of, 5–8, 220–26, 244; systematic shifts in, 7, 128–29, 137–41, 160, 166–71, 242
criticism, constructive mutual, 15, 249, 255
Critique of Judgment, 37, 91, 93, 116, 128, 139, 145, 157, 158, 159, 164, 171, 218, 231, 234, 237, 238
Critique of Practical Reason, 43, 57, 62–65, 114, 229, 230, 242, 261
Critique of Pure Reason, 260; first review of, 98, 111, 112, 130, 135; impure character of, 140–41, 167–69, 216–17; key aims of, 1–2, 36, 100–01, 131–32, 168; method of, 2–3, is non-analytic, 76–77, non-Cartesian –, 2, 12–34, 261, requires sufficient principles, 167, *see also* reflection; changed method of thinking, 12, 228, 249, 263, 266, 268, cf. 264; *Nachträge*, Kant's, 48, 50; Preface, 82; *see also* individual chapter or section titles.
custom, *see* Hume

Deduction, empirical, 168, *defined* 168n; Metaphysical, 43–44; Transcendental, 1–2, 6, 11, 23, 25, 30, 76, 77, 81, 87–88, 91, 94, 96, 97–100, 101–116, 129, 134, 152, 168–69, 172, 223, 240, 262, 269, *defined*, 168n
definition, real, 53n
descriptions, definite, *see* cognitive reference
determinations, inner, absolute, 142, 144, 212–13, 244, 246; comparative, 142, 220, 246
determinism, universal causal, 62, 229, 237–43; psychological, 9, 35, 54, 62, 229–43; Kant's denial of, 230–43; *see also* Paralogisms, freedom
discursivity thesis, 47
dispositions, *see* causality
divine, divinity, *see* God

Eleutheriologie, 242
empiricism, 34, 83, 84–85, 111; concept –, 27–28, 43, 51, 74, 97, 153; verification –, 63; *see also* proof, cognitive reference
Erkenntnis, defined, 45n, 253
experience, possibility of integrated self-conscious –, 2–5, 8, 9, 15, 19, 21, 23–25, 29, 31, 33, 34, 44–45, 67, 68–69, 70–72, 77, 80, 81, 82, 87, 91–100, 106–09, 113–15, 117–18, 120–26, 128, 146, 147, 156, 166–167, 169, 170, 220, 225, 226, 228, 229, 238, 241, 243, 244, 246–48, 249, 252, 257, 258, 259–60, 262, 264–65, 266–67, 269–74, *see also* self-ascription; inextricably temporal and spatial, 20, 32, 253; inner, 12, 16, 136–7, 139, 141, 176, 229–38, 233–6, 238, priority over outer, 13, 257; inner & outer, 13, 176, 265; outer, priority over inner, 2, 6, 13, 134–7, 248, 265, 269–74; transcendental material conditions of, 5, 23, 24, 40, 53, 67, 68–69, 72, 87, 92, 93, 100, 113, 119, 121, 122, 123, 125, 201, *see also* affection, transcendental; affinity, transcendental; transcendental conditions; whole of, not itself a perception, 253–4, 256
externalism, 226, 229, 258, 261, *defined*, 9; Kant's justificatory –, 9, 10, 249; mental content –, *see* mental content, externalism

field theory, 151, 201
forces, attractive, different kinds of, 194–7, 200–3; basic, Kant's realism about, 177, 178, 201–4; concept of, 234; living, 144–5, 209, *see also* hylozoism; original moving, 180, 181, 190, 198, 199, 225–6, *versus* external, 188; *see also* causality, transeunt
formal, *defined*, 78
Fortschritte (*Welches sind die wirkliche Fortschritte, die die Metaphysik seit Leibnizens und Wolf's Zeiten in Deutschland gemacht hat?*), 132
foundationalism, epistemic, *see* justification
freedom, Kant's two accounts of, 41; of action, 229–43; practical, 65–6, 228, 230, *see also* agency, determinism; transcendental, 66
friction, 203

Genera, Law of, 24–25, 92–96
geometry, 120
Gesetzgebungsthese, *see* nature, basic laws of, prescribed by us

global perceptual skepticism, *see* skepticism, global perceptual
God, 15, 53, 63, 65, 78, 83, 149, 154, 161, 251, 260; *Der einzig mögliche Beweisgrund zu einer Demonstration des Daseins Gottes*, 186; divine conservation, 154, 254, *versus* creation, 245–6; *see also* postulates, practical
gravity, 149–50, 191–7, 200, 201, 204, 214; distinct from Kant's basic constitutive force of attraction, 194–5, 196–97, 200–1, 203, 204

hylozoism, 144, 157, 160, 161, 165–6, 172, 208, 244, cf 141–45; Kant's failure to refute, 142–4, 209–21
hypothesis, 260; philosophical, 57, 96, 221; *see also* skepticism, hypotheses

'I think', 21; *see also* apperception; experience, possibility of; self-ascription; transcendental conditions
idea, new way of ideas, 33, cf 60; transcendent, 241, cf 64; *see also* transcendental illusion
idealism, 64; kinds of, contemporaneous, 64; material, 269; Refutation of, 2, 5–6, 29, 95, 111, 130, 137, 146, 235, 269; subjective, 90, 110, 112–13, 115, 211, cf 248, 267, *see also* idealism, material; Transcendental, 3, 4–6, 34, 36–67, 68, 77, 118, 120–2, 175, 176, 202, 204, 205, 211, 222, 223, 240–1, 248, 250, 252, 253, 255, 267, *defined*, 4–5; tr. idealism and tr. proof, 5, 68–71, 76–87, 107–16, 118–23, 125–26, 229, 257; dilemma confronting, 90, 110–13; 'dual aspect' (dual descriptions) interpretation (Prauss, Allison), 37, 57, 60, 117, 123–5, *defined*, 40; internal critique of tr. idealism, 3–4, 5–6, 10, 34–35, 67, 118–23, 134, 172, 202–4, 221–3, 228–9, 248, 267–8; metaphysical dual-aspect interpretation, 4, 56–61; 'neglected alternative', 4, 85, 121, 267; 'two worlds' interpretation, 54, 56, 58; *see also* Berkeley, Leibniz
impenetrability, *see* matter
Incorporation Thesis, *see* agency
individualism, *see* mind, philosophy of
inertia, *see* mechanics
interaction, causal, *see* causality, transeunt
introspection, 16–8
intuitions, outer, 130, 133–37, 232

judgment, function(s) of, 43–4, 48–50, 266; synthetic, 146; *see also* perception, synthesis
Judgments, Table of, 11, 16, 44–6, 50
justification, deductivism, 255, 259–60; *see also* cartesianism; justification, infallibilist; knowledge, rational; knowledge, scientific; empirical, 255; fallibilism, 9, 10, 249, 255, 259, 266, 268; foundationalism, 31, 257; infallibilism, 10, 116, 222, 249, 254–5, 258–60; internalism, 258–9; relevant alternatives, 10, 260

knowledge, *a priori*, *defined*, 179; construction, 179; contingencies in, 259, *see also* cognitive capacities; justification, fallibilist; historical *versus* rational, 73–4, 234, 249; mathematical, 179; possibility of, as such, 1–2, 220, cf 222; scientific (*Wissenschaftlich*), Kant's definition of, 178–9, 205, 222, 235, 249; natural-scientific, how *versus* whether it is possible, 1–2, 220; transcendental, *defined*, 131–2, *see also* reflection, transcendental; truth condition of, 259, *see also* truth, proof

life, 212–4; Kant's definition of, 212; Kant's dualist account of, 141, 164, 209, 212; *see also* biology, hylozoism
logic, general, Kant's, 253, *see also* categories, judgment; logical gap between belief and truth, 259; non-contradiction, law of, 20, 188; question-begging, *defined*, 69; transcendental, 15, 17, 51, 255, cf 53n
Loses Blatt Leipzig 1, 225

magnetism, *see* causality, Kant's examples of
materialism, French, 240; *see also* naturalism
mathematics, 179; justifying its use in natural science, 7, 179, 183; mathematical construction, 29, 179; negative quantities ("*Versuch den Begriff der negativen Größen in die Weltweisheit einzuführen*"), 186; proportions, *versus* causal functions, 196; value, absolute, 196; *see also* knowledge
matter, as such, 177, 208, 211, 212, 220–1; as the movable in space, 179, 180, 201, 204, 207, 209, 211, 213, 214, 216, 219; as the object of outer sense, 211; conservation of, 162, 206; consists solely in external relations, 208, 210, 218, 244; continuous, *versus* discrete, 194, 201, *see also* matter, infinite divisibility; corpuscularism, 149, 151, 174, 175, 181, 188–9, 193–4, 200; density, 151, 175–6, 191–8, 200, 203; dynamic theory of, 149–51, 181, 185–99; impenetrability, 135–6, 141, 149–51, 181, 188, 191, 232; infinite divisibility, 194, 212, *see also* matter, continuous; in general, 224; inner possibility of, 177, 186, 198, 202–4, 222; interstices in, 175, 191, 192, 194, 198, 200; Kant's theory of, 7, 129, 137, 143, 150–1, 166–7, 173–227, circularities in, 190–7, 198–9, 224; cohesion, 175, 176, 197–8, 201,

202, 203, 224; construction of, 176–81, tendency toward atomism or monadism, 193; lifelessness of, 131, 137, 141–5, 157, 208–14, Kant's arguments for, empirical basis of, 214–21, *see also* hylozoism, inertia, Mechanics, Kant's second law of; – of sensation, *see* sensation, matter of; omnipresent (*allerwärts Materie*), 80; quantity of, 191–3, 196, 200, 224, cf 178; rigidity, 197, 203; unconstructability of, 7, 174–6, 197, 199–204, 224
matters, basic, 192–4, 197, 198
measurement, means of, 225, *see also* time, chronometry
mechanics, Kant's foundations for, 129–30, 205–6, 220–1, *see also MAdN*; Newtonian, 8, 144, 150, 152, 165, 195–6, 198, 205–6, 212, 214–5, 219–20, First Law (inertia), 8, 144, 154, 175, 206, 207, 212, 217, cf 219, parallelogram of forces, 215, principles of explanation, 150, Second Law (proportionality of cause and effect), 214–5, 217, Third Law (equality of action and reaction), 152, 215, 217, *vis insita*, 208, 219
mental content, externalism, 3, 6, 10, 33, 34, 67, 72, 85, 94, 115–6, 126, 221, 226, 243, 248, 249, 258, 267, "transcendental" argument from, 116, transcendental proofs of, 3, 10, 34, 115, 225, 248, 267, cf 265–6, 269–74; individualism (Burge), *defined*, 258; intentionality, apparent, 259; internalism, 258, 265, *see also* mind, philosophy of
Metaphysical Foundations of Natural Science (*MAdN*), 6–8, 126, 127–227 *passim*; aims of, 171–81, 196–7;
Dynamics (*MadN*, ch. 2), 180, 181; general remark on, 174, 201, 203; Proposition One, 151, 185–90, *quoted*, 151, 185; Proposition Seven, 197
mathematical model of, 179, 224;
Mechanics (*MadN* ch. 3), 180, 198–9, 204, 205–27; Kant's three laws of, 181, *see also* mechanics; second law of (inertia; Proposition 3), 144–5, 158, 182, 205–21, 225; third law of (equality of action and reaction; Proposition 4), 151–2, 158, 205–6;
method of, 132, 140–1, 176–81, cumulative, 180–1, 204, 207, metaphysical construction, 179; untenability of, 199–204; parts of, two projected, 241–2;
Phenomenology (*MadN* ch. 4), 180, 207n
Phoronomy (*MadN* ch. 1), 175, 180, 181–90, 203, 206, 207, 215; abstracts from causes, 182, 206–7; Proposition of, 183–90, Kant's proof of, 182–5, 187–8, Kant's misuse of, 185–90; *versus* geometry, 183; postulates, theoretical, kinds of, 177;
Preface, 7, 231–2, 235, 236
problems in, 7–8, 34, 176, 191–204, 217–26;
psychology, 171, 231–2, 234, empirical, 231–6, modern, 243, psycho-physical correlations, 235, rational, 232–3;
relations of *MadN* to *Critique of Pure Reason*, official, 131–2, 137–8, 172, 173–4, 179–81, 221–2, substantive, 128–9, 131, 137–71 *passim*, 172n, 165–71, 202–3, 216–7;
reduced to Phoronomy, 224–5; review of, first, 98, 111, 112–3, 130, 135;
speed (*Geschwindigkeit*), 206, *see also* matter
metaphysics, Critical, 1, 131, 170, completeness in, 97, 99–101, 129–30, 166–8, 170–1, 172, 173–4, 176, 178, 180, 221, cf 128, 210–1, general, 132, 138–42, 158, special, 139–41, *defined*, 137, 138–9, *see also* metaphysics, Critical, *MadN*; rationalist, 47–9, 50–1, 140, 141n, 232–3, 239–40, 241
mind, philosophy of, Kant's non-Cartesian, 2, 12–14, 256, 262; materialism, 231, 234; spiritualism, 231, 234, *see also* mental content
minds, other, *see* agency, analogy, argument from
monads, animate, 213; Leibnizian, 142, 161, 213–4, 231, 246; physical, 161, 193, 246
monism, physical, 160, 161; *see also* Spinozism
motion, absolute, 182; actual causes of, 216; curvilinear, 182, 203, 206–7, 215; description of a space, *versus* – of a body, 216; direction, sameness of, 206–7, 219; quantity of, total, scalar *versus* vector sum, 217; rectilinear, 206–7, 215; relativity of, 182–3

natural science, 1–2, 134; applicability of mathematics in, 1, 7, 173–4, 176, 178, 179, 183, 195, 225, cf 176, *see also MadN*, Phoronomy; as doctrine of motion, 177; Eighteenth-century, 149–50; Kant's foundations of, 1–2, 144, 172, 173, *see also MadN*; metaphysical theses in, 178
naturalism, causal, 243, *see also* determinism
nature, formal *versus* material senses of, 176; laws of, 73–6, basic, prescribed by us, 61, 76, 83, 90, 112, 114–5, 125, *see also* mechanics; physiology of, 135, 139, 170, 232; simple, *see* monads, substance, simple; supersensible substrate of, 37
Neo-Kantianism, 37–40
noumena, ignorance of, 50, cf 66; non-relationality of, 56; *see also* causality, noumenal; idealism, transcendental

object, phenomenal, 54, 59–61, cf 58, *see also* appearance, perception; transcendental, 48
occasionalism, *see* causality
ontology, 170
Optiks (Newton), 150; *Quaery* 31, 150
opus postumum, 8, 166, 170, 171n, 174, 189, 224–6, *see also* Transition Project
outer sense, *see* capacities, key cognitive
outside, transcendental sense of, *see* transcendental, outside

Paralogisms of Rational Psychology, 9, 16, 21, 130, 133, 135–7, 141, 176, 230, 231–7, 245, 246
parasitism argument, 262, cf 14–5
parsimony, 269
patchwork theory, 242
perception, appearing *versus* appearance theory, 59–60, 251, *see also* sensationism; binding problem, 22, 33, 89, 101–6, 271; direct *versus* representational theories of, 13, 250–1; objective *versus* subjective order of perceptions, 28–9, 30–4, 147–8, 234–5, 256, 262, 272–3; perceptual presentation, singular, 78–9, 244, 246, 252–3, 255, 266; perceptual seemings, 261–2; perceptual synthesis, 21–3, 45–6, 87–9, 98, 102–4, 271–3, cf 114–5, 146n; three-fold, 88n, 98, 103n; *see also* appearances, sensation
phenomena & noumena, 48, 53–4, 57–60, 66; *see also* appearances, noumena
phenomenalism, 61, 66
philosophy, contemporary, 1, 268, Kantian elements in, 262; *see also* cartesianism
physical object, concept of, 27–8; individuation of, 126, 131, 148, 161, 164, 166, 194n, 232, cf 147, *see also* perception, singular presentation; plurality of, 148, 160–5; substance, substances, 162–5, 232, *see also* causal structure, world
physiology, human, 33n, 89, 237; of inner sense 135–6, 141, 232; of nature, 135–6, 139, 170, 232
plenum, dynamic, 149, *see also* aether; material, 149, 151
postulates, of empirical thought, 136; practical, 53, 64–5
practical reason, *see* agency
premises, Kant's basic, 14–5, 17–8, *see also* reflection, epistemic; reflection, transcendental
principles, Analytic of, 99–100, 101, 132, 133, 135–6, 137, 145, 146, 148, 167–9, 172, 199, 229, *see also* experience, Analogies of; constitutive, 24–5, 79–80, 90–7, 101–6, 107, 112, 124, 146, 243, 237–8, *see also* causality, principles of; transcendental affinity; regulative, 24, 25, 65, 90–2, 93, 94, 96, 146, 177, 202, 218, 237–40, 243, *see also* soul; determinism, psychological; transcendental *versus* metaphysical, 34, 128–9, 138, 144, 145, 170–1, 173, 179–80, 216–7, 244–8, *see also* causality, metaphysical, transcendental principles of
Prolegomena for any Future Metaphysics, 42, 71, 82–3, 138, 170, 171, 224
proof, apodictic, 134, *defined*, 178, *see also* knowledge, scientific (*Wissenschaftlich*); indirect, 96; transcendental, 1–35, 71–2, 76–80, 82–116, 118–23, 125–6, 131–4, 228–9, 250–74, *defined*, 4; *see also* 76–7, 100, 167–8, aim of, 4, 68, is not verificationist, 248–9, *see also* realism, transcendental proof of; reflection, epistemic and transcendental
propensity, *see* causality, dispositional properties

questions, philosophical, not all are answerable, 256

rationalism, *see* concepts
realism, empirical 34, 59, 127, 250; internal, 71, 126, 248; metaphysical, 71; *sans phrase*, 1, 3, 5, 10, 34, 35, 67, 71, 94–5, 126, 248, 250, 267, 268, 269, transcendental proof of, 3, 5, 8, 10–11, 33–5, 76–80, 125–6, 127, 205, 221, 223, 225–7, 228–9, 243, 248, 250–68, 269, summary of, 269–74, *see also* mental content, externalism, transcendental proofs of; transcendental, 69, 123, 124, 223, *defined*, 71
reality, objective, 45, 64–5, 76, 109, 205, defined, 36–7, 64–5, *see also* cognitive reference, semantics of
realize (*realisieren*), *defined*, 133
reason, practical, *see* agency
reflection, kinds of, 16–8; epistemic, 12–35, 95–6, 102–3, 105–6, 155–6, 244, 247–8, 250, 251–2, 255, 256, 260–3, 266–8, *defined*, 17–8, cf 134, 208, 249; transcendental, 2–3, 10, 15–7, 40, 47–50, 52–5, 106, 134, 208, 249, 255, 260, 266, 268, *defined*, 16–7, 49
regress, *see* premises, Kant's basic
relations, ideality of, 88n

Scottish Common Sense school, 133
self-ascription, of representations, 21–3, 25, 32–3, 257, 271, *see also* apperception; perception, objective *vs* subjective order of, perceptual synthesis; time determination; transcendental affinity
self-positing, 226
semantics, assertibilist, 252; Kant's, *see* cognitive reference; semantic ascent, 262

sensation, 111; impressions, *see* Hume; matter of, 25, 66, 67, 87, 101, 110, 113, 115, 116, 126, 260; sensationism, 13, 60, 88–9, 259, *defined*, 44–5; sensations, 24–5, 89–90, 251; sense data, 21, 32, 33; sensory atomism, 88
ship, *see* causality, Kant's examples of
simultaneity, of cause and effect, 161; principle of, 163–4
skepticism, 257; and transcendental idealism, 250–1, *see also* Hume; cartesian, 33, 259; generalization from universal possibility of error to the possibility of universal error, 116, 257–9; global perceptual, 1, 3, 35, 134, 228, 229, 253–63, 266–8; hypotheses, 3, 252–3, 255, 257–8, envatted brains, 254, *malin génie*, 254; skeptical *vs* ordinary grounds of doubt, 257–8; internalism of, 258; Kant's critique of, 250–63; key challenge of, 251, 253; regarding causal judgments (Hume), 6, 8, 25, 165; theoretical innocence of, 258–9;
soul, *see* agency
space, 19–21, 26, 32, 58–61, 92, 121, 155; absolute, 182–3; filling *versus* occupying, 181; form of outer intuition, 19–21, *see* capacities, key cognitive; formal *versus* material senses of, 223; reference frames, 182–3; relative spaces, 182–3; space as such, cannot be perceived, 26, 154–5, 273; void, 71, 80–2, 121, 122, 123, *see also* matter, interstices in
Spinozism, 161
substance, physical, *see* physical object; simple, 137, 233, 236, 239, 245, 246, *see also* monads
synthesis, figurative, 19n; perceptual, *see* perception, self-ascription

theoretical entities, 177, 239
thought experiments, Kant's, 18–34, 261; integrity of, 32–5; listed, 18–19, *see also* skepticism, hypotheses of
time, 19–20, 26, 58–61, *see also* capacities, key cognitive; chronometry, 183; determination, 19, 26–32, 79, 80–1, 84, 126, 134–6, 147–8, 154–6, 245, 248, 250, 256, 257, 258, 269–74; time as such, cannot be perceived, 26, 154, 162, 256, 272
transcendental, Aesthetic, 19–21, 119–22; Analytic, 256, *see also* Principles; argument, 'analytic', 1, 2, 6, 14–5, 25, 36, 37–8, 262, *term*, 1; chaos, 25, 93, 96–7, 101, 102, 105–6, 112, 126, 267; conditions for the possibility of unified self-conscious human experience, epistemic, 58, 70, 79, 84, 107, 111, 115, 124, material, 5, 68–9, 87, 91–2, 99, 100, 106, 248–49, ontological, 70, 77–80, 85, 124, satisfaction of, 4–5, 23, 24, 77–8, 80–2, 84–5, 99, 107, 113–20, 121–6, 222, 229, 238, 248, 249, terminology for, 79–80; *see* experience, possibility of; Dialectic, 253–4; Doctrine of Method, 75, 96, 97, 98, 101, 141; dynamics, 225; idealism, *see* idealism, transcendental; illusion, 10, 55, 240; outside, – sense of, 49, 55; problems of reason, 254; psychology, 15; realism, 69, 71, cf. 121; reflection, *see* reflection, transcendental
Transition Project (*Übergang* 1–14), 224, *see also opus postumum*
triad, Kant's inconsistent, 110–1
truth, best explanation, 264; condition of knowledge, *see* knowledge; cognitive command, 264; correspondence platitude, 263; deflationism, minimalism about, 263–6; realism about, 263, 265–6; -conferring states of affairs, wide cosmological role, 264

validity, objective, *see* reality, objective

world, spatio-temporal, cognizable structure of, 248, 250, 267; our cognitive dependence on, 3, 250, *see also* causal structure of molar objects